United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of Franklin County, Virginia

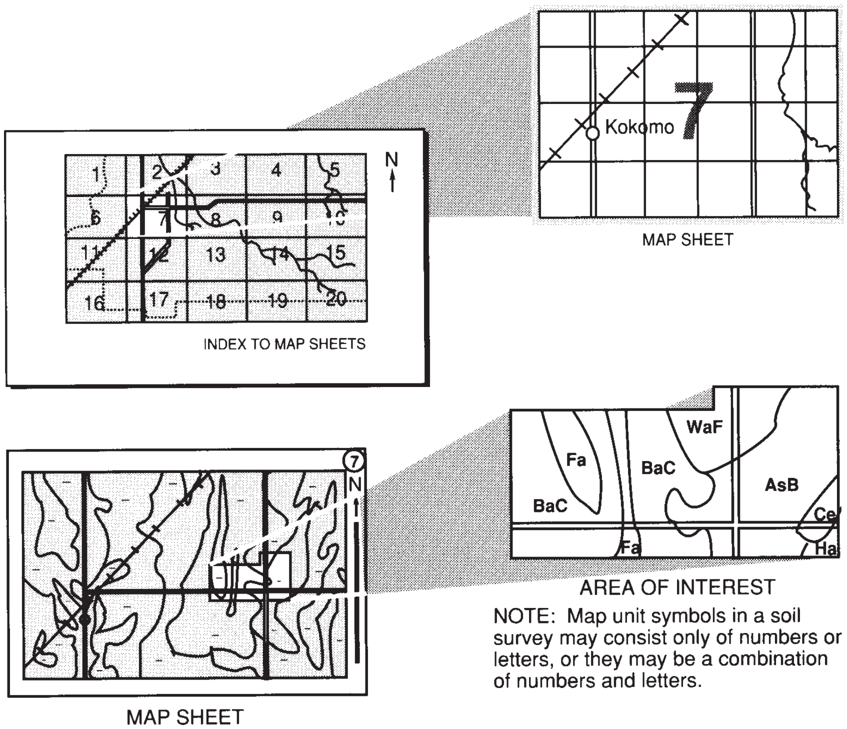
How To Use This Soil Survey

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

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

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

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



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service; the Virginia Polytechnic Institute and State University; the Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; and the Franklin County Board of Supervisors. The survey is part of the technical assistance furnished to the Blue Ridge Soil and Water Conservation District. The Franklin County Board of Supervisors provided financial assistance for the survey.

Major fieldwork for this soil survey was completed in April 2000. Soil names and descriptions were approved in August 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in August, 2000. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app.

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

Nondiscrimination Statement

Cover Caption

A dairy farm in Franklin County.

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

Contents

Issued 2009

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys 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 surveys 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 surveys 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.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency—nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

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

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

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Soil Survey of
Franklin County, Virginia

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FRANKLIN COUNTY is in the southern section of Virginia (fig. 1) about 135 miles west of Richmond and 200 miles southwest of Washington, D.C. The survey area is bounded on the west and northwest by Floyd and Roanoke Counties, on the northeast and east by Bedford and Pittsylvania Counties, and on the south and southwest by Henry and Patrick Counties.

As the seventh largest county in the Commonwealth, Franklin County encompasses an area of about 722 square miles, or 455,300 acres. Land ownership is divided as follows: 432,300 acres of private land; 18,100 acres of water; and 4,900 acres of federal land. According to the U.S. Bureau of Census, the population was an estimated 47,286 in 2000. The centrally located town of Rocky Mount is the county seat..

General Nature of the Survey Area

This section provides information on the history and development, the climate, and the physiography, relief, and drainage of the survey area. It also describes agriculture, forestry, industry, tourism, and wildlife and fisheries in the survey area.

History and Development

Humans first appeared in Franklin County around 10,000 B.C. during the Paleo-Indian period (Salmon and Salmon, 1985). Native American artifacts, such as arrowheads, remain as evidence of their presence. During the 1600's, an eastern Siouan tribe inhabited the region. The first Native American tribes encountered by the European explorers in Franklin County were the Tutelo tribe of the Blue Ridge Mountains and the Saponi tribe of the Piedmont. The September 1671 expedition of the Englishmen Batts and Fallam was the first recorded expedition. Fifty years later, settlers were encouraged to immigrate further west into the Piedmont and establish colonies. By the late 1740's, citizens of Maryland and Eastern Virginia, Scotch-Irish and German emigrants, were venturing into Franklin County.

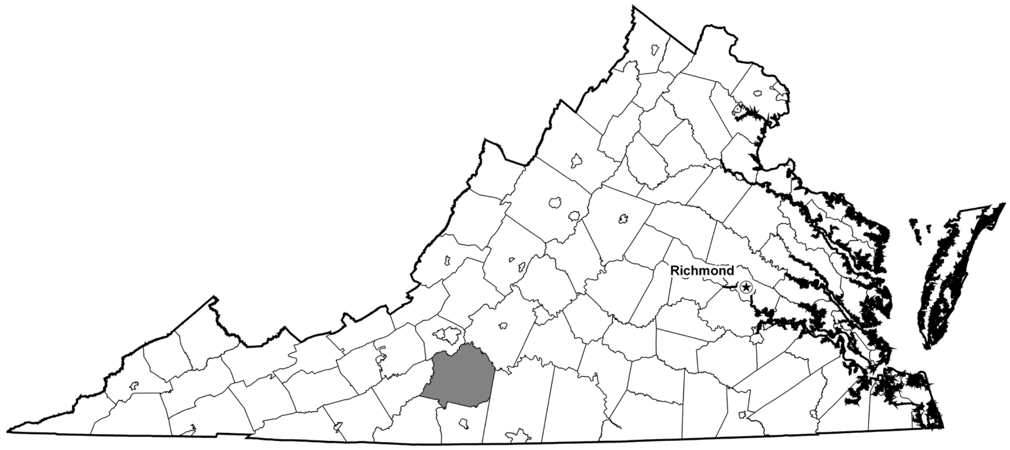


Figure 1.— Location of Franklin County in Virginia.

Franklin County was formed from Bedford and Henry Counties in 1786 (Sammons, 1997). The county was named for Benjamin Franklin, who was the governor of Pennsylvania at the time. The town of Rocky Mount, developed as a village during the Revolutionary War and chartered in 1873, is the modern-day county seat (Franklin County Chamber of Commerce, 1995). The site of the Washington Iron Works is the county's oldest landmark. Until the Revolutionary War, the furnace produced farm implements, stoves, and pots. It was later converted to the production of armaments used by the American Revolutionaries.

Historically, agriculture has been the basis for the economic vitality of the county. Dairy products, tobacco, chickens, apples, and other commodities have been produced over the years. From the late 1800's to more modern times, wood products, sawmills, textiles, and iron ore and other small mines have played various roles in the economy. Since the development of Smith Mountain and Philpott Lakes in the 1960's, tourism has become another important industry.

Climate

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

In winter, the average temperature is 36.1 degrees F and the average daily minimum temperature is 25.6 degrees. The lowest temperature on record, which occurred at Rocky Mount on January 21, 1985, was –11 degrees. In summer, the average temperature is 73.1 degrees and the average daily maximum temperature is 84.8 degrees. The highest temperature, which occurred at Rocky Mount on July 10, 1988, was 102 degrees.

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

The average annual total precipitation is 45.07 inches. Of this, 28.8 inches, or about 64 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7.45

inches at Rocky Mount on September 8, 1987. Thunderstorms occur on about 36 days each year, and most occur between May and August.

The average seasonal snowfall is 19.5 inches. The greatest snow depth at any one time during the period of record was 24 inches, recorded on January 8, 1996. On an average, 15 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 13.5 inches, recorded on January 7, 1996.

The average relative humidity in mid-afternoon is about 52 percent. Humidity is higher at night, and the average at dawn is about 78 percent. The sun shines 63 percent of the time in summer and 53 percent in winter. The prevailing wind is from the southwest for much of the year, except from August to November, when it is primarily from the northeast. Average windspeed is highest, around 9 miles per hour, in March and April.

Physiography, Relief, and Drainage

The survey area is within two major land resource areas. The western portion is located in the Blue Ridge Physiographic Province and accounts for about 15 percent of the survey area. The eastern portion is located in the Piedmont Physiographic Province and accounts for about 85 percent of the survey area. Figure 2 summarizes the breakdown of these provinces into smaller landscapes, landforms, and positions.

The elevation of Franklin County ranges from 3,560 feet above sea level on Cahas Knob in the Blue Ridge Physiographic Province to about 680 feet on the Pigg River flood plain in the Piedmont Physiographic Province. The elevation of Rocky Mount is about 1,200 feet.

The western and northwestern portions of the county are characterized by steep and very steep alternating mountain ridges and narrow drainageways of the Blue Ridge escarpment. Occasionally, the drainageways widen and flatten out to form a narrow flood plain. The portions of the county located to the east of the Blue Ridge Mountains are characterized by gently sloping to moderately steep upland interfluves and steep and very steep hill ridges dissected by drainageways and wider river valleys. Isolated hills, such as Jack’s Mountain, Graveyard Knob, Cooks Knob, Haw Patch Hill, and Grassy Hill are located throughout the county. The forested ridges and narrow drainageways of Fork, Chestnut, and Turkeycock Mountains characterize the southeastern section of the county. Although named mountains on maps, these steep and very steep ridges are properly identified as hills since their summits are less than 1,000 feet above adjacent uplands. Figure 3 illustrates the physiography, relief, and drainage of the survey area.

The two man-made lakes in the county are Smith Mountain Lake on the border of Franklin and Bedford Counties and Philpott Lake on the border of Franklin, Henry, and Patrick Counties. Both reservoirs are hydroelectric impoundments designed to control flooding. Respectively, the lakes consist of 20,600 acres with a 500-mile shoreline and 2,880 acres with a 100-mile shoreline.

The four watershed drainage areas in Franklin County are described here from north to south (Virginia Department of Conservation and Recreation, 1996). The Roanoke (Staunton) River and its major tributaries—the Blackwater River, Beaverdam Creek, Maggodee Creek, and Gills Creek—flow into Smith Mountain Lake. This watershed area comprises 47 percent of the drainage in the county. The Pigg River and its major tributaries—Big Chestnut Creek, Little Chestnut Creek, Snow Creek, and Turkeycock Creek—flow into Leesville Reservoir in Pittsylvania County. This watershed area comprises 38 percent of the drainage in the county. The Smith River and Rennet Bag Creek flow into Philpott Reservoir and comprise 9 percent of the drainage in the county. Town Creek, Blackberry Creek, Reed Creek, and Beaver Creek flow into the Dan River in Pittsylvania County and comprise 6 percent of the

Physiographic Province	Blue Ridge			Piedmont		
Landscape	Mountains	Foothills	River valleys	Hills	Uplands	River valleys
Landform	Ridge Drainageway	Ridge Drainageway	Stream terrace (low or high) Flood plain	Ridge Drainageway	Interfluve Drainageway	Stream terrace (low or high) Flood plain
Hillslope Profile Position	Summit Shoulder Backslope Footslope Toeslope	Summit Shoulder Backslope Footslope Toeslope	Footslope (high stream terrace) Toeslope (low stream terrrace or flood plain)	Summit Shoulder Backslope Footslope Toeslope	Summit Shoulder Backslope Footslope Toeslope	Footslope (high stream terrace) Toeslope (low stream terrrace or flood plain)
Geomorphic Component	Mountaintop Mountainflank Mountainbase	Interfluve Head slope Nose slope Side slope Base slope	Tread Riser Flood plain step	Interfluve Head slope Nose slope Side slope Base slope	Interfluve Head slope Nose slope Side slope Base slope	Tread Riser Flood plain step

Figure 2.—Model of landscape, landform, hillslope profile position, and geomorphic component for Franklin County.

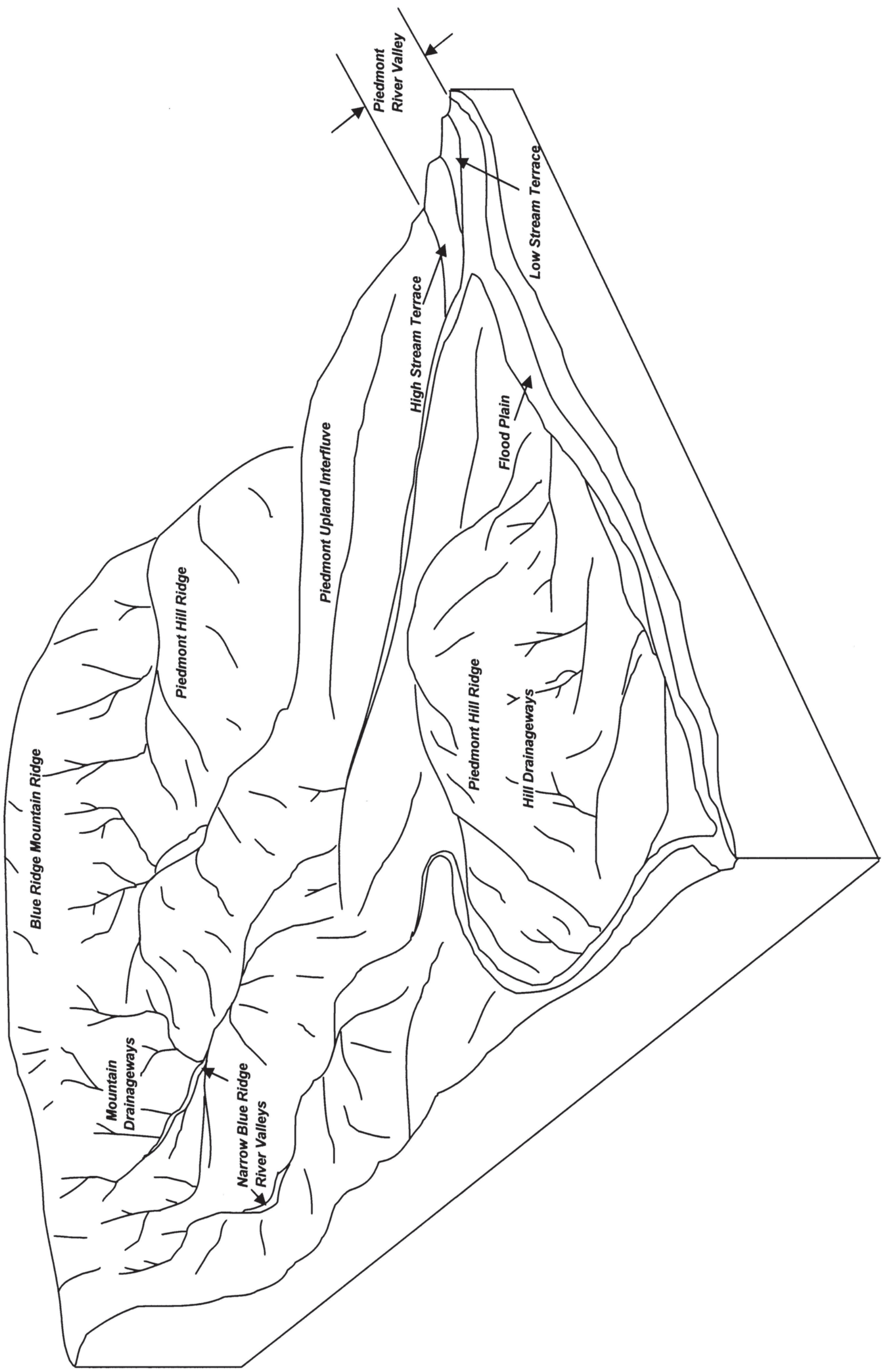


Figure 3.—Model of Blue Ridge mountain, Piedmont hill, Piedmont upland, and river valley for Franklin County.

drainage area in the county. These watersheds ultimately join at Lake Gaston on the Virginia and North Carolina border.

Ground water exists in underground pore spaces found between rock particles and sediment grains and in openings such as cracks, faults, fissures, and solution cavities within the rocks and unconsolidated sediments. Quantities of available ground water depend on the number and size of pore spaces and openings. Ground-water quality is largely dependent upon the geochemical environment in which water is stored. Generally, the Blue Ridge area provides a meager source of water due to high elevations, thin soil, and rapid runoff over impermeable rocks. Although water quality is good, pumping rates are usually less than 10 gallons per minute.

In the Piedmont, the potential for developing ground-water supplies is highly variable depending on the soil thickness and subsurface fractures and is usually limited to fractures within 300 feet of the land surface. Pumping rates are usually less than 20 gallons per minute but can be up to 200 gallons per minute. The water quality is generally good except for some areas with high iron concentrations and acidity. The towns of Rocky Mount, Boones Mill, and Ferrum have both water supply systems and waste sewage treatment plants. Otherwise, domestic household water supplies are from springs and wells and sewage is processed through home septic systems.

Agriculture

Although farm numbers and farm acres decreased from 1980 to 1990, the average farm size increased at a moderate rate (USDA-NASS, 1992). While the number of beef and dairy cows increased, there was a substantial decrease in the number of hogs (84 percent) and chickens (94 percent). Also, tobacco production declined in this 10-year period.

In 1990, Franklin County had 935 farms averaging 178 acres in size and 49.3 percent of these farms were the primary occupation of the producer. Of the 166,477 acres of farmland, 82,657 acres were in crops (USDA-NASS, 1992). Franklin County had 42 farms with 650 total acres producing 188,240 bushels of apples and 19 farms with 36 total acres producing 2,858 bushels of peaches (USDA-NASS, 1992).

In 1997, Franklin County ranked number thirteen in the State for agricultural income (Virginia Agricultural Statistics Service, 1998). In 1998, Franklin County ranked second in the State for dairy production, sixth for all cattle and calves, and nineteenth for beef cows only. Cropping statistics ranked Franklin County third in the state for corn silage, eighth in flue-cured tobacco, and fourteenth in the “all hay” categories. Other crops were barley, grain corn, wheat for grain, alfalfa, and soybeans (Virginia Agricultural Statistics Service, 1998). Also, timber harvests and orchards had some contribution to farm income.

Forestry

In 1992, according to the U.S. Department of Agriculture, Forest Service Statistics for Franklin County, 65 percent of the privately owned land, or 279,964 acres, were in forest or timberland. Of this acreage, 5 percent was owned by the timber industry, 28 percent was owned by farmers, and 67 percent was owned by private individuals (Johnson, 1992). The forest-type group that represents 82.4 percent of the timberland is the oak/hickory group, which includes upland oaks, hickory, yellow-poplar, red maple, sweetgum, and American beech.

The county’s forest resources are twofold. First, the standing timber provides raw materials for the forest and manufacturing industries and provides supplemental income for the agriculture industry. Second, the forest provides an environment for recreation, hunting, fishing, and rural living. Woodlands provide watershed protection, prevent soil erosion, supply clean air, enhance the aesthetic beauty, and improve the quality of living in the county. The abundant variety of wildlife in the county is another cherished natural resource (Virginia Department of Forestry, 1986).

Industry

Most of the major manufacturing and business establishments in Franklin County are located in or adjacent to the towns of Rocky Mount, Boones Mill, and Ferrum (West Piedmont Planning District, 1997). The major industries produce textiles, furniture, wood-related products, construction materials, and manufactured homes or buildings. Scattered throughout the county are a few small shopping centers, general stores, sawmills, and other small business enterprises. Jack's Mountain Quarry processes amphibolite for industrial crushed stone. Feldspar, mica, talc, and low-grade iron ore were quarried in bygone years. A considerable number of Franklin residents are employed in Roanoke and Henry Counties.

Tourism

Tourism, recreational development, and associated business development have expanded due to the presence of Smith Mountain Lake, Philpott Lake, and the Blue Ridge Parkway. The scenic Blue Ridge Parkway meanders along the northwestern border of the county. The Smart View Recreation Area, a 500-acre site, contains picnicking areas and hiking trails. Cahas Knob and Devil's Backbone are just two of the many impressive sites that can be viewed from overlooks on the parkway.

Other attractions are the Blue Ridge Institute at Ferrum College and Booker T. Washington National Monument. The Blue Ridge Institute is committed to the documentation, preservation, and presentation of traditional life and culture of the Blue Ridge Mountains. Booker T. Washington National Monument is the birthplace of the famous agrarian and scholar Booker T. Washington. The fully restored 224-acre, pre-Civil War Era tobacco plantation commemorates his life and accomplishments. Coming attractions include the restored Rocky Mount Train Station and the 37-acre Franklin County location of the Smith Mountain Lake State Park. There are several golf courses in the county.

Wildlife and Fisheries

Turkeycock and Philpott Wildlife Management Areas, located on the county's southern border, are managed to encourage a healthy native wildlife habitat. Turkeycock Mountain has also been designated as a natural area that is to remain in a natural state in order to preserve the scenic, geological, and ecological values of the area. In 1999, Grassy Hill Natural Area Preserve was added to the Virginia Natural Heritage Program as a unique woodland community. The Blackwater River may be considered in the future for placement on the Scenic River List.

Forested land, such as that found at Philpott, Turkeycock, and other areas in the county, provides watershed protection, prevents soil erosion, supplies clean air, enhances the aesthetic beauty, and improves the quality of living in the county. The wooded upland and mountain areas provide habitat for various species of wildlife, including white-tailed deer, wild turkey, black bear, and beaver. Other wildlife found in the county include cottontail rabbit, squirrel, fox, raccoon, and additional non-game species. Numerous bird species include bobwhite quail, dove, Canada goose, duck, owl, red-tailed hawk, woodpecker, blue jay, and cardinal.

Smith Mountain Lake is known for largemouth bass, striped bass, white bass, crappie, flathead catfish, gizzard shad, and walleye. Philpott Lake is known for rainbow trout, large bass, smallmouth bass, crappie, channel catfish, redbreast sunfish, and bluegill (Virginia Department of Game and Inland Fisheries, 1998).

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.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA-NRCS, 2006). Soil survey areas typically consist of parts of one or more MLRAs.

The soils and miscellaneous areas in the survey area occur 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. 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.

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. 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*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, 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, Clifford fine sandy loam, 8 to 15 percent slopes, is a phase of the Clifford 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. Clifford-Hickoryknob complex, 25 to 45 percent slopes, is an example.

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

Table 4 lists the map units in this survey area. 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.

Soil Map Unit Composition

Table 5 and the detailed soil map unit descriptions in this section present the average composition of the map units. The table also expresses the probability that the average composition will be within a given range. The proportion of similar and dissimilar soils is also given. The map unit is named for the taxon of the dominant soil or soils. Each soil listed by name in the table is described in the section "Soil Series and Their Morphology."

Confidence Limits of Soil Survey Information

Confidence limits of soil surveys are statistical expressions of the probability that the composition of a map unit will vary within prescribed limits. Confidence limits can be assigned numerical values based on a random sample. The composition of map units and other information are derived largely from extrapolations made from small samples.

Specific confidence limits for the composition of map units in Franklin County were determined using data from randomly selected points. Soil scientists made enough random observations to extrapolate data at a specific confidence level. For example, the map unit Elsinboro-Colescreek complex, 2 to 8 percent slopes, rarely flooded, has a 90 percent confidence level based on the random point data. The most likely estimate is that Elsinboro and similar soils make up 70 percent of the map unit. There is a 90 percent probability that the true percentage of Elsinboro and similar soils in the map unit is between 65 and 75 percent.

Detailed map unit composition was determined by one of four methods: subjective judgment, informed judgment, modified statistical, or statistical. *Subjective judgment* uses 3 to 30 or more arbitrary points and less than 10 random points to subjectively estimate map unit composition. In selecting the observation points, the project staff relies mainly on knowledge of soil formation and experience in observing landscapes, topography, and vegetation during mapping. *Informed judgment* uses 3 to 30 or more arbitrary points and 10 to 30 random points to determine map unit composition. In selecting the observation points, the project staff combines this knowledge with field experience. *Modified statistical* uses 30 or more observation points (random or systematic) to evaluate composition. The project staff modifies the results according to field experience or additional arbitrary points. *Statistical* uses 30 or more observation points (random or systematic) to determine map unit composition without modification or adjustment. *Arbitrary points* are observations made with selection bias, utilizing knowledge of soil formation and local mapping experience. *Random points* are observations selected without bias and are independent from any other observation. *Systematic points* are observations made along fixed-interval line transects or grids. Each line or grid point location is predetermined without bias.

The composition of some map units was decided according to the judgment of the soil scientist and not by a statistical procedure. Miscellaneous areas such as Urban land and Water are examples. For other map units, statistical procedures were used but the data was not sufficient to make useful probability statements. For these map units, the soil scientist used informed judgment in determining map unit composition. Wintergreen loam, 15 to 25 percent slopes and Trimont-Porters complex, 25 to 45 percent slopes, very stony, are examples. Hichoryknob-Rhodhiss-Stott Knob complex, 25 to 60 percent slopes is an example of a map unit for which the statistical method (more than 30 random points without modification or adjustment) was used to determine the composition of each component.

1C—Ashe-Edneyville-Peaks complex, 8 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 30 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Ashe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Edneyville and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Peaks and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Ashe

Surface layer:
0 to 1 inch—very dark grayish brown gravelly fine sandy loam

Subsoil:
1 to 6 inches—dark yellowish brown gravelly fine sandy loam
6 to 25 inches—dark yellowish brown cobbly fine sandy loam

Hard bedrock:
25 to 80 inches—indurated granulite bedrock

Edneyville

Surface layer:
0 to 6 inches—brown gravelly loam

Subsoil:
6 to 29 inches—strong brown loam

Substratum:
29 to 61 inches—dark yellowish brown fine sandy loam

Peaks

Surface layer:
0 to 5 inches—brown gravelly loam

Subsoil:
5 to 12 inches—dark yellowish brown gravelly loam
12 to 25 inches—dark yellowish brown very cobbly loam

Substratum:
25 to 34 inches—dark yellowish brown very cobbly loam

Hard bedrock:
34 to 80 inches—indurated granitic gneiss bedrock

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Edneyville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Ashe soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Peaks soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Ashe soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Peaks soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and that are deep to partially weathered bedrock and very deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Ashe—low (about 3.0 inches); Edneyville—moderate (about 7.8 inches); Peaks—very low (about 2.8 inches)
Slowest saturated hydraulic conductivity: Ashe and Edneyville—high (about 1.98 in/hr); Peaks—high (about 5.95 in/hr)
Depth class: Ashe and Peaks—moderately deep (20 to 40 inches); Edneyville—very deep (more than 60 inches)
Depth to root-restrictive feature: Ashe and Peaks—20 to 40 inches to bedrock (lithic); Edneyville—more than 60 inches
Drainage class: Ashe and Peaks—somewhat excessively drained; Edneyville—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Ashe and Peaks—high; Edneyville—low
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar and eastern white pine

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Ashe and Edneyville—GG; Peaks—JJ
Hydric soils: No

2D—Ashe-Peaks-Edneyville complex, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 60 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Ashe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Peaks and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Edneyville and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Ashe

Surface layer:
0 to 1 inch—very dark grayish brown gravelly fine sandy loam

Subsoil:
1 to 6 inches—dark yellowish brown gravelly fine sandy loam
6 to 25 inches—dark yellowish brown cobbly fine sandy loam

Hard bedrock:
25 to 80 inches—indurated granulite bedrock

Peaks

Surface layer:
0 to 5 inches—brown gravelly loam

Subsoil:
5 to 12 inches—dark yellowish brown gravelly loam
12 to 25 inches—dark yellowish brown very cobbly loam

Substratum:
25 to 34 inches—dark yellowish brown very cobbly loam

Hard bedrock:
34 to 80 inches—indurated granitic gneiss bedrock

Edneyville

Surface layer:
0 to 6 inches—brown gravelly loam

Subsoil:
6 to 29 inches—strong brown loam

Substratum:
29 to 61 inches—dark yellowish brown fine sandy loam

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Edneyville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Ashe soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Peaks soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Ashe soil and have thick, dark surface layers; in similar landform positions

- Soils that are similar to the Edneyville soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Peaks soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and that are deep to partially weathered bedrock and very deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Ashe—low (about 3.0 inches); Peaks—very low (about 2.8 inches); Edneyville—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Ashe and Edneyville—high (about 1.98 in/hr); Peaks—high (about 5.95 in/hr)
Depth class: Ashe and Peaks—moderately deep (20 to 40 inches); Edneyville—very deep (more than 60 inches)
Depth to root-restrictive feature: Ashe and Peaks—20 to 40 inches to bedrock (lithic); Edneyville—more than 60 inches
Drainage class: Ashe and Peaks—somewhat excessively drained; Edneyville—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Ashe and Peaks—high; Edneyville—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Ashe and Edneyville—GG; Peaks—JJ
Hydric soils: No

3D—Bluemount-Redbrush-Spriggs complex, 15 to 25 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 200 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Bluemount and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Redbrush and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Spriggs and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Bluemount

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

Subsoil:
4 to 14 inches—dark yellowish brown silt loam
14 to 24 inches—yellowish brown very cobbly clay loam

Hard bedrock:
24 to 80 inches—indurated amphibolite bedrock

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Spriggs

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

Subsoil:
6 to 38 inches—strong brown gravelly clay loam

Soft bedrock:
38 to 52 inches—moderately cemented hornblende gneiss bedrock

Hard bedrock:
52 to 80 inches—indurated hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Soils that are shallow or very deep to bedrock; in similar landform positions
- Soils that have a water table above a depth of 4 feet; in similar and less steep landform positions

Similar components:
- Soils that are similar to the Spriggs soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Redbrush soil and that have a moderate shrink-swell potential and/or are deeper to unweathered bedrock; in similar landform positions
- Soils that are similar to the Bluemount soil and have thin argillic or cambic horizons; in similar landform positions
- Soils that are similar to the Spriggs soil, have no paralithic contact, and are deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Bluemount—low (about 4.0 inches); Redbrush—low (about 3.7 inches); Spriggs—moderate (about 6.4 inches)
Slowest saturated hydraulic conductivity: Bluemount and Spriggs—moderately high (about 0.57 in/hr); Redbrush—low (about 0.00 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Bluemount—20 to 40 inches to bedrock (lithic); Redbrush and Spriggs—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained

Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Bluemount and Spriggs—moderate; Redbrush—high
Runoff class: Bluemount and Spriggs—high; Redbrush—very high
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: Bluemount and Spriggs—JJ; Redbrush—Y
Hydric soils: No

4E—Bluemount-Spriggs complex, 25 to 45 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 1,140 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Bluemount and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Spriggs and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Bluemount

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

Subsoil:
4 to 14 inches—dark yellowish brown silt loam
14 to 24 inches—yellowish brown very cobbly clay loam

Hard bedrock:
24 to 80 inches—indurated amphibolite bedrock

Spriggs

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

Subsoil:
6 to 38 inches—strong brown gravelly clay loam

Soft bedrock:
38 to 52 inches—moderately cemented hornblende gneiss bedrock

Hard bedrock:
52 to 80 inches—indurated hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Soils that are shallow or very deep to bedrock; in similar landform positions

Similar components:
- Soils that are similar to the Spriggs soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to Redbrush soils and that have a moderate shrink-swell potential and/or are deeper to unweathered bedrock; in similar landform positions
- Soils that are similar to the Bluemount soil and have thin argillic or cambic horizons; in similar landform positions
- Soils that are similar to the Spriggs soil, have no paralithic contact, and are deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Bluemount—low (about 4.0 inches); Spriggs—moderate (about 6.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Bluemount—20 to 40 inches to bedrock (lithic); Spriggs—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: JJ
Hydric soils: No

5C—Bluemount-Spriggs-Redbrush complex, 8 to 15 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 60 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Bluemount and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Spriggs and similar soils: Typically 20 percent, ranging from about 15 to 25 percent
Redbrush and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Bluemount

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

Subsoil:
4 to 14 inches—dark yellowish brown silt loam
14 to 24 inches—yellowish brown very cobbly clay loam

Hard bedrock:
24 to 80 inches—indurated amphibolite bedrock

Spriggs

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

Subsoil:
6 to 38 inches—strong brown gravelly clay loam

Soft bedrock:
38 to 52 inches—moderately cemented hornblende gneiss bedrock

Hard bedrock:
52 to 80 inches—indurated hornblende gneiss bedrock

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are shallow or very deep to bedrock; in similar landform positions
- Soils that have a water table above a depth of 4 feet; in similar and less steep landform positions

Similar components:
- Soils that are similar to the Spriggs soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Redbrush soil and that have a moderate shrink-swell potential and/or are deeper to unweathered bedrock; in similar landform positions
- Soils that are similar to the Bluemount soil and have thin argillic or cambic horizons; in similar landform positions

- Soils that are similar to the Spriggs soil, have no paralithic contact, and are deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Bluemount—low (about 4.0 inches); Spriggs—moderate (about 6.4 inches); Redbrush—low (about 3.7 inches)
Slowest saturated hydraulic conductivity: Bluemount and Spriggs—moderately high (about 0.57 in/hr); Redbrush—low (about 0.00 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Bluemount—20 to 40 inches to bedrock (lithic); Spriggs and Redbrush—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Bluemount and Spriggs—moderate; Redbrush—high
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Not suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4s
Virginia soil management group: Bluemount and Spriggs—JJ; Redbrush—Y
Hydric soils: No

6C—Brownwood-Chandler complex, 8 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 30 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brownwood and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Chandler and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Chandler

Surface layer:
0 to 4 inches—very dark grayish brown loam

Subsoil:
4 to 8 inches—very dark grayish brown loam
8 to 16 inches—dark yellowish brown loam
16 to 22 inches—dark yellowish brown sandy loam

Substratum:
22 to 30 inches—dark yellowish brown sandy loam
30 to 80 inches—dark yellowish brown parachannery sandy loam

Minor Components

Dissimilar components:
- Soils that are shallow or very shallow to bedrock; in similar landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:
- Watauga soils, which are similar to the Chandler soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Chandler soil and are deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and moderately deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Chandler soil and have less mica throughout; in similar landform positions
- Soils that are similar to Watauga soils and have less mica throughout; in similar landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and have darker surface layers; in similar landform positions
- Soils that are similar to Watauga soils and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Brownwood—low (about 4.3 inches); Chandler—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)

Depth class: Brownwood—moderately deep (20 to 40 inches); Chandler—very deep (more than 60 inches)
Depth to root-restrictive feature: Brownwood—20 to 40 inches to bedrock (paralithic); Chandler—more than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Brownwood—high; Chandler—low
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Brownwood—JJ; Chandler—FF
Hydric soils: No

6D—Brownwood-Chandler complex, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 70 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brownwood and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Chandler and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Chandler

Surface layer:
0 to 4 inches—very dark grayish brown loam

Subsoil:
4 to 8 inches—very dark grayish brown loam
8 to 16 inches—dark yellowish brown loam
16 to 22 inches—dark yellowish brown sandy loam

Substratum:
22 to 30 inches—dark yellowish brown sandy loam
30 to 80 inches—dark yellowish brown parachannery sandy loam

Minor Components

Dissimilar components:
- Soils that are shallow or very shallow to bedrock; in similar landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:

- Watauga soils, which are similar to the Chandler soil and have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and moderately deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Chandler soil and have less mica throughout; in similar landform positions
- Soils that are similar to Watauga soils and have less mica throughout; in similar landform positions

Soil Properties and Qualities

Available water capacity: Brownwood—low (about 4.3 inches); Chandler—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Brownwood—moderately deep (20 to 40 inches); Chandler—very deep (more than 60 inches)
Depth to root-restrictive feature: Brownwood—20 to 40 inches to bedrock (paralithic); Chandler—more than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Brownwood—high; Chandler—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar and eastern white pine

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Brownwood—JJ; Chandler—FF
Hydric soils: No

6E—Brownwood-Chandler complex, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 540 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brownwood and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Chandler and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Chandler

Surface layer:
0 to 4 inches—very dark grayish brown loam

Subsoil:
4 to 8 inches—very dark grayish brown loam
8 to 16 inches—dark yellowish brown loam
16 to 22 inches—dark yellowish brown sandy loam

Substratum:
22 to 30 inches—dark yellowish brown sandy loam
30 to 80 inches—dark yellowish brown parachannery sandy loam

Minor Components

Dissimilar components:
- Soils that are shallow or very shallow to bedrock; in similar landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:
- Watauga soils, which are similar to the Chandler soil and have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and moderately deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Chandler soil and have less mica throughout; in similar landform positions
- Soils that are similar to Watauga soils and have less mica throughout; in similar landform positions

Soil Properties and Qualities

Available water capacity: Brownwood—low (about 4.3 inches); Chandler—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Brownwood—moderately deep (20 to 40 inches); Chandler—very deep (more than 60 inches)

Depth to root-restrictive feature: Brownwood—20 to 40 inches to bedrock (paralithic); Chandler—more than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Brownwood—high; Chandler—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar and eastern white pine

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Brownwood—JJ; Chandler—FF
Hydric soils: No

6F—Brownwood-Chandler complex, 45 to 95 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 265 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brownwood and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Chandler and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Chandler

Surface layer:
0 to 4 inches—very dark grayish brown loam

Subsoil:
4 to 8 inches—very dark grayish brown loam
8 to 16 inches—dark yellowish brown loam
16 to 22 inches—dark yellowish brown sandy loam

Substratum:
22 to 30 inches—dark yellowish brown sandy loam
30 to 80 inches—dark yellowish brown parachannery sandy loam

Minor Components

Dissimilar components:
- Soils that are shallow or very shallow to bedrock; in similar landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:
- Watauga soils, which are similar to the Chandler soil and have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Chandler soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and moderately deep to partially weathered and unweathered bedrock; in similar landform positions
- Soils that are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Chandler soil and have less mica throughout; in similar landform positions
- Soils that are similar to Watauga soils and have less mica throughout; in similar landform positions

Soil Properties and Qualities

Available water capacity: Brownwood—low (about 4.3 inches); Chandler—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Brownwood—moderately deep (20 to 40 inches); Chandler—very deep (more than 60 inches)
Depth to root-restrictive feature: Brownwood—20 to 40 inches to bedrock (paralithic); Chandler—more than 60 inches
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Brownwood—high; Chandler—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to chestnut oak; moderately suited to yellow-poplar and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.

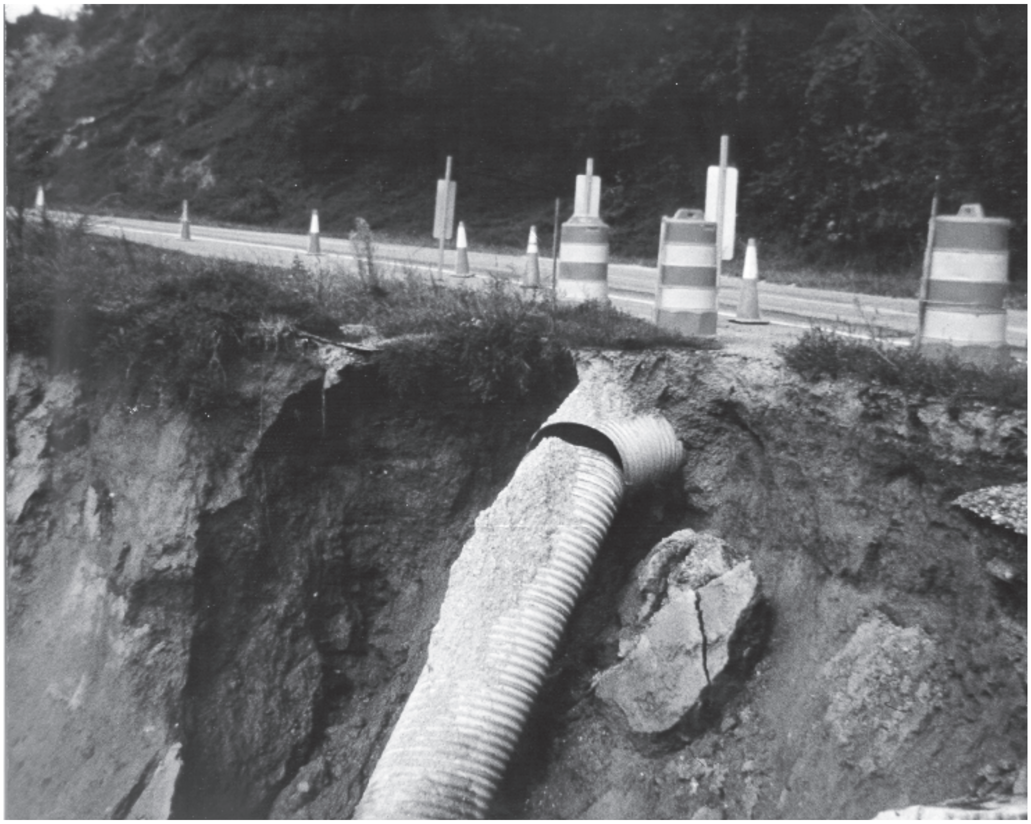


Figure 4.— Roads built on micaceous soils are subject to slippage. In this area of Brownwood-Chandler complex, 45 to 95 percent slopes, very stony, the combination of slope and high mica content contributes to conditions susceptible to slippage, resulting in road failure where road cuts exist.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult (fig. 4).

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Brownwood—JJ; Chandler—FF
Hydric soils: No

7B—Clifford fine sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex summits and shoulders
Elevation: 700 to 1,300 feet
Size of areas: 3 to 630 acres

Map Unit Composition

Clifford and similar soils: Typically 95 percent, ranging from about 90 to 100 percent

Typical Profile

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 11 inches—yellowish red clay loam
11 to 54 inches—red clay
54 to 62 inches—red clay loam

Substratum:
62 to 82 inches—strong brown, dark red, and red fine sandy loam

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar landform positions
- Wintergreen soils, which are colluvial; in similar landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Fairview soils, which are similar to the Clifford soil and have a thinner argillic horizon; in similar landform positions
- Minnieville soils, which are similar to the Clifford soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Clifford soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Clifford soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Clifford soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, and metagraywacke

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine, northern red oak, and chestnut oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- This soil is well suited to building sites.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

7C—Clifford fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills

Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 6,600 acres

Map Unit Composition

Clifford and similar soils: Typically 95 percent, ranging from about 90 to 100 percent

Typical Profile

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 11 inches—yellowish red clay loam
11 to 54 inches—red clay
54 to 62 inches—red clay loam

Substratum:
62 to 82 inches—strong brown, dark red, and red fine sandy loam

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar landform positions
- Wintergreen soils, which are colluvial; in similar landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Fairview soils, which are similar to the Clifford soil and have a thinner kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Clifford soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Clifford soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Clifford soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Clifford soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, and metagraywacke

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine, northern red oak, and chestnut oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: X
Hydric soil: No

7D—Clifford fine sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 765 acres

Map Unit Composition

Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 11 inches—yellowish red clay loam
11 to 54 inches—red clay
54 to 62 inches—red clay loam

Substratum:
62 to 82 inches—strong brown, dark red, and red fine sandy loam

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar landform positions
- Wintergreen soils, which are colluvial; in similar landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Fairview soils, which are similar to the Clifford soil and have a thinner kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Clifford soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Clifford soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Clifford soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Clifford soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, and metagraywacke

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to wheat; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine, northern red oak, and chestnut oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

8E—Clifford-Hickoryknob complex, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 2,370 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Clifford and similar soils: Typically 75 percent, ranging from about 70 to 80 percent
Hickoryknob and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Clifford

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 11 inches—yellowish red clay loam
11 to 54 inches—red clay
54 to 62 inches—red clay loam

Substratum:
62 to 82 inches—strong brown, dark red, and red fine sandy loam

Hickoryknob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 13 inches—brown channery loam
13 to 23 inches—yellowish red channery clay loam

Soft bedrock:
23 to 36 inches—moderately cemented mica schist bedrock

Hard bedrock:
36 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Comus soils, which are alluvial; in flood plain positions
- Elsinboro soils, which are alluvial; in low stream terrace positions
- Soils that are deep to unweathered bedrock; in similar landform positions
- Soils that are shallow to bedrock; in similar landform positions

Similar components:
- Fairview soils, which are similar to the Clifford soil and have a thinner kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Clifford soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Clifford soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Stott Knob soils, which are similar to the Hickoryknob soil and moderately deep to partially weathered bedrock; in similar landform positions
- Woolwine soils, which are similar to the Hickoryknob soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Clifford soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Clifford soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Hickoryknob soil and have 35 to 60 percent clay in the subsoil; in similar landform positions

Soil Properties and Qualities

Available water capacity: Clifford—moderate (about 7.5 inches); Hickoryknob—low (about 3.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Depth class: Clifford—very deep (more than 60 inches); Hickoryknob—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Clifford—more than 60 inches; Hickoryknob—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Clifford—residuum from mica schist, mica gneiss, and metagraywacke; Hickoryknob—residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to loblolly pine, northern red oak, and chestnut oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Clifford—X; Hickoryknob—N
Hydric soils: No

9C—Clifford-Urban land complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 6 to 500 acres

Map Unit Composition

Note: This soil and miscellaneous land type occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Clifford and similar soils: Typically 75 percent, ranging from about 70 to 80 percent
Urban land: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Clifford

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 11 inches—yellowish red clay loam
11 to 54 inches—red clay
54 to 62 inches—red clay loam

Substratum:
62 to 82 inches—strong brown, dark red, and red fine sandy loam

Urban land

This part of the map unit consist of areas covered by asphalt or concrete, such as roadways or parking lots. Also included are structures, buildings, and other impervious surfaces.

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar landform positions
- Wintergreen soils, which are colluvial; in similar landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Fairview soils, which are similar to the Clifford soil and have a thinner kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Clifford soil and have mafic geology; in similar landform positions

- Rhodhiss soils, which are similar to the Clifford soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Clifford soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Clifford soil and deep to partially weathered bedrock; in similar landform positions

Properties and Qualities of the Clifford Soil

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, and metagraywacke

Use and Management Considerations

Cropland, pastureland, and woodland

- Because of the proximity to urban development, onsite investigation is necessary to determine the suitability of areas of this map unit for cropland, pastureland, or woodland uses.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Clifford—3e; Urban land—8s
Virginia soil management group: Clifford—X; Urban land—none assigned
Hydric soils: Clifford—no; Urban land—unranked

10B—Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Low stream terraces in river valleys
Position on the landform: Linear to concave treads

Elevation: 700 to 1,300 feet
Size of areas: 3 to 140 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Colescreek and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Delanco and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Colescreek

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 16 inches—yellowish brown clay loam
16 to 25 inches—yellowish brown sandy clay loam
25 to 33 inches—yellowish brown clay loam with yellowish brown masses of oxidized iron
33 to 42 inches—light yellowish brown sandy clay loam with very dark brown iron-manganese concretions, light gray iron depletions, and yellowish brown masses of oxidized iron
42 to 50 inches—light gray clay loam with yellowish brown masses of oxidized iron
50 to 56 inches—light gray sandy clay loam with yellowish brown masses of oxidized iron

Substratum:
56 to 70 inches—gray sand with light yellowish brown masses of oxidized iron
70 to 80 inches—light brownish gray sand

Delanco

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 26 inches—light olive brown clay loam with yellowish brown masses of oxidized iron and light brownish gray iron depletions
26 to 37 inches—light brownish gray clay with yellowish brown masses of oxidized iron

Substratum:
37 to 50 inches—light gray clay loam with light olive brown masses of oxidized iron
50 to 57 inches—light gray loamy sand with light olive brown masses of oxidized iron
57 to 80 inches—light gray very gravelly sand with light olive brown masses of oxidized iron

Minor Components

Dissimilar components:
- Elsinboro soils, which have a water table below a depth of 6 feet; in similar landform positions
- Iotla soils, which are occasionally flooded; in flood plain positions
- Maggodee soils, which are occasionally flooded; in flood plain positions
- Soils that have a water table above a depth of 1 foot; in similar landform positions
- Soils that are frequently, occasionally, or non-flooded; on flood plains or high terraces

Similar components:
- Soils that are similar to the Colescreek soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Delanco soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Colescreek soil, are well drained, and have a water table between a depth of 40 and 48 inches; in similar landform positions

Soil Properties and Qualities

Available water capacity: Colescreek—moderate (about 8.1 inches); Delanco—high (about 11.0 inches)
Slowest saturated hydraulic conductivity: Colescreek—moderately high (about 0.57 in/hr); Delanco—moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Colescreek—moderately well drained; Delanco—somewhat poorly drained
Depth to seasonal water saturation: Colescreek—about 30 to 42 inches; Delanco—about 24 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Colescreek—low; Delanco—moderate
Runoff class: Colescreek—medium; Delanco—high
Surface fragments: None
Parent material: Alluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: Colescreek—2e; Delanco—4w
Virginia soil management group: Colescreek—L; Delanco—B
Hydric soils: No

11A—Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Flood plains (Comus and Maggodee) and low stream terraces (Elsinboro) in river valleys
Position on the landform: Linear to concave steps (Comus and Maggodee) and treads (Elsinboro)
Elevation: 700 to 1,300 feet
Size of areas: 3 to 1,780 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Comus and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Maggodee and similar soils: Typically 20 percent, ranging from about 15 to 25 percent
Elsinboro and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Comus

Surface layer:
0 to 12 inches—brown fine sandy loam

Subsoil:
12 to 27 inches—brown fine sandy loam
27 to 47 inches—dark yellowish brown fine sandy loam

Substratum:
47 to 56 inches—dark yellowish brown loamy sand
56 to 62 inches—dark yellowish brown, pale brown, and light brownish gray loamy sand

Maggodee

Surface layer:
0 to 4 inches—dark brown fine sandy loam
4 to 13 inches—dark yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—brown fine sandy loam with brown iron depletions and dark yellowish brown masses of oxidized iron
20 to 30 inches—brown silt loam with dark brown masses of oxidized iron and very dark gray iron-manganese concretions
30 to 34 inches—dark gray loam with dark yellowish brown masses of oxidized iron
34 to 42 inches—dark gray loam with dark yellowish brown masses of oxidized iron
42 to 48 inches—dark gray loam with dark yellowish brown and yellowish brown masses of oxidized iron

Substratum:
48 to 54 inches—dark gray loam
54 to 60 inches—very dark gray sandy loam

Elsinboro

Surface layer:
0 to 11 inches—brown loam

Subsoil:
11 to 25 inches—strong brown clay loam
25 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 60 inches—brown sandy loam

Minor Components

Dissimilar components:
- Colescreek soils, which have a water table between a depth of 2 and 4 feet; in similar landform positions
- Delanco soils, which have a water table between a depth of 1 and 2 feet; in similar landform positions

Similar components:
- Low stream terrace soils that are similar to the Elsinboro soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Flood plain soils that are similar to the Comus and Maggodee soils and have 18 to 35 percent clay in the subsoil; in similar landform positions

Soil Properties and Qualities

Available water capacity: Comus and Maggodee—high (about 9.8 inches); Elsinboro—moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Comus—moderately high (about 0.60 in/hr); Maggodee—high (about 1.98 in/hr); Elsinboro—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Comus and Elsinboro—well drained; Maggodee—moderately well drained
Depth to seasonal water saturation: Comus—more than 6 feet; Maggodee—about 18 to 36 inches; Elsinboro—more than 60 inches
Water table kind: Apparent
Flooding hazard: Comus and Maggodee—occasional; Elsinboro—rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Comus and Elsinboro—low; Maggodee—very low
Surface fragments: None
Parent material: Alluvium from metamorphic and igneous materials

Figure 5.—A bottomland pasture on Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes, is in the foreground. A wooded area on Hayesville loam, 25 to 45 percent slopes, very stony, is in the background.

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay
- Flooding may damage crops.

Pastureland

Suitability: Well suited to pasture (fig. 5)
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.

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

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.

Local roads and streets

- Flooding may damage local roads and streets.
- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: Comus—1; Maggodee—2w; Elsinboro—2e
Virginia soil management group: Comus and Maggodee—A; Elsinboro—L
Hydric soils: No

12C—Cowee-Cliffield-Evard complex, 8 to 15 percent slopes, very rocky

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to concave footslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 acres (one delineation for join purposes)

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cowee and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Cliffield and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Evard and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Cowee

Surface layer:
0 to 3 inches—dark brown cobbly loam

Subsoil:
3 to 6 inches—yellowish red gravelly loam
6 to 18 inches—red sandy clay loam
18 to 23 inches—red fine sandy loam

Substratum:
23 to 30 inches—yellowish red gravelly fine sandy loam

Soft bedrock:
30 to 43 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
43 to 80 inches—indurated mica gneiss bedrock

Cliffield

Surface layer:
0 to 3 inches—brown very cobbly fine sandy loam

Subsoil:
3 to 6 inches—brown very cobbly loam
6 to 15 inches—brown very cobbly sandy clay loam
15 to 23 inches—yellowish red extremely cobbly sandy clay loam

Hard bedrock:
23 to 80 inches—indurated mica schist bedrock

Evard

Surface layer:
0 to 4 inches—dark brown gravelly fine sandy loam

Subsoil:
4 to 7 inches—yellowish red gravelly loam
7 to 14 inches—yellowish red gravelly clay loam
14 to 28 inches—red gravelly clay loam
28 to 33 inches—red gravelly fine sandy loam

Substratum:
33 to 49 inches—red gravelly fine sandy loam
49 to 72 inches—yellowish red gravelly fine sandy loam

Minor Components

Dissimilar components:
- Cullasaja soils, which are colluvial; in similar landform positions
- Tuckasegee soils, which are colluvial; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Evard soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Cliffield soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Evard soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cowee—low (about 4.4 inches); Cliffield—very low (about 2.0 inches); Evard—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Cowee and Cliffield—moderately deep (20 to 40 inches); Evard—very deep (more than 60 inches)
Depth to root-restrictive feature: Cowee—20 to 40 inches to bedrock (paralithic); Cliffield—20 to 40 inches to bedrock (lithic); Evard—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None

Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock outcrops may limit machinery operations.

Woodland

Suitability: Moderately suited to chestnut oak, yellow-poplar, and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: Cowee—N; Cliffield—X; Evard—L
Hydric soils: Unranked

12D—Cowee-Cliffield-Evard complex, 15 to 25 percent slopes, very rocky

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes and footslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 8 acres (one delineation for join purposes)

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cowee and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Cliffield and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Evard and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Cowee

Surface layer:
0 to 3 inches—dark brown cobbly loam

Subsoil:
3 to 6 inches—yellowish red gravelly loam
6 to 18 inches—red sandy clay loam
18 to 23 inches—red fine sandy loam

Substratum:
23 to 30 inches—yellowish red gravelly fine sandy loam

Soft bedrock:
30 to 43 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
43 to 80 inches—indurated mica gneiss bedrock

Cliffield

Surface layer:
0 to 3 inches—brown very cobbly fine sandy loam

Subsoil:
3 to 6 inches—brown very cobbly loam
6 to 15 inches—brown very cobbly sandy clay loam
15 to 23 inches—yellowish red extremely cobbly sandy clay loam

Hard bedrock:
23 to 80 inches—indurated mica schist bedrock

Evard

Surface layer:
0 to 4 inches—dark brown gravelly fine sandy loam

Subsoil:
4 to 7 inches—yellowish red gravelly loam
7 to 14 inches—yellowish red gravelly clay loam
14 to 28 inches—red gravelly clay loam
28 to 33 inches—red gravelly fine sandy loam

Substratum:
33 to 49 inches—red gravelly fine sandy loam
49 to 72 inches—yellowish red gravelly fine sandy loam

Minor Components

Dissimilar components:
- Cullasaja soils, which are colluvial; in similar landform positions
- Tuckasegee soils, which are colluvial; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Evard soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Cliffield soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Evard soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cowee—low (about 4.4 inches); Cliffield—very low (about 2.0 inches); Evard—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Cowee and Cliffield—moderately deep (20 to 40 inches); Evard—very deep (more than 60 inches)
Depth to root-restrictive feature: Cowee—20 to 40 inches to bedrock (paralithic); Cliffield—20 to 40 inches to bedrock (lithic); Evard—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock outcrops may limit machinery operations.

Woodland

Suitability: Moderately suited to chestnut oak, yellow-poplar, and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s

Virginia soil management group: Cowee—N; Cliffield—X; Evard—L
Hydric soils: Unranked

12E—Cowee-Cliffield-Evard complex, 25 to 45 percent slopes, very rocky

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 5 to 75 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cowee and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Cliffield and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Evard and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Cowee

Surface layer:
0 to 3 inches—dark brown cobbly loam

Subsoil:
3 to 6 inches—yellowish red gravelly loam
6 to 18 inches—red sandy clay loam
18 to 23 inches—red fine sandy loam

Substratum:
23 to 30 inches—yellowish red gravelly fine sandy loam

Soft bedrock:
30 to 43 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
43 to 80 inches—indurated mica gneiss bedrock

Cliffield

Surface layer:
0 to 3 inches—brown very cobbly fine sandy loam

Subsoil:
3 to 6 inches—brown very cobbly loam
6 to 15 inches—brown very cobbly sandy clay loam
15 to 23 inches—yellowish red extremely cobbly sandy clay loam

Hard bedrock:
23 to 80 inches—indurated mica schist bedrock

Evard

Surface layer:
0 to 4 inches—dark brown gravelly fine sandy loam

Subsoil:
4 to 7 inches—yellowish red gravelly loam
7 to 14 inches—yellowish red gravelly clay loam
14 to 28 inches—red gravelly clay loam
28 to 33 inches—red gravelly fine sandy loam

Substratum:
33 to 49 inches—red gravelly fine sandy loam
49 to 72 inches—yellowish red gravelly fine sandy loam

Minor Components

Dissimilar components:
- Cullasaja soils, which are colluvial; in similar landform positions
- Tuckasegee soils, which are colluvial; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Evard soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have browner colors; in similar landform positions
- Soils that are similar to the Cowee soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Cliffield soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Evard soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cowee—low (about 4.4 inches); Cliffield—very low (about 2.0 inches); Evard—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Cowee and Cliffield—moderately deep (20 to 40 inches); Evard—very deep (more than 60 inches)
Depth to root-restrictive feature: Cowee—20 to 40 inches to bedrock (paralithic); Cliffield—20 to 40 inches to bedrock (lithic); Evard—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to chestnut oak, yellow-poplar, and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential

negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Cowee—N; Cliffield—X; Evard—L
Hydric soils: Unranked

13D—Cullasaja-Tuckasegee complex, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Drainageways and ridges on mountains
Position on the landform: Linear to concave footslopes

Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 185 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cullasaja and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Tuckasegee and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Cullasaja

Surface layer:
0 to 3 inches—black channery mucky loam
3 to 7 inches—very dark brown channery loam

Subsoil:
7 to 16 inches—dark brown channery loam
16 to 23 inches—dark yellowish brown channery fine sandy loam
23 to 60 inches—dark yellowish brown very channery fine sandy loam

Tuckasegee

Surface layer:
0 to 14 inches—very dark brown cobbly loam

Subsurface layer:
14 to 17 inches—dark brown cobbly loam

Subsoil:
17 to 42 inches—strong brown cobbly loam
42 to 60 inches—strong brown cobbly sandy clay loam

Minor Components

Dissimilar components:
- Dellwood soils, which are occasionally flooded; in flood plain positions
- Soils that are less than 60 inches to bedrock; in similar landform positions
- Soils that have a water table between a depth of 2 and 4 feet; in similar landform positions

Similar components:
- Soils that are similar to the Cullasaja soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Cullasaja soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have more development; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cullasaja—low (about 5.4 inches); Tuckasegee—high (about 9.4 inches)

Slowest saturated hydraulic conductivity: Cullasaja—high (about 1.98 in/hr); Tuckasegee—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Cullasaja—FF; Tuckasegee—G
Hydric soils: No

13E—Cullasaja-Tuckasegee complex, 25 to 60 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Drainageways and ridges on mountains
Position on the landform: Linear to concave backslopes and footslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 85 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cullasaja and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Tuckasegee and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Cullasaja

Surface layer:
0 to 3 inches—black channery mucky loam
3 to 7 inches—very dark brown channery loam

Subsoil:
7 to 16 inches—dark brown channery loam
16 to 23 inches—dark yellowish brown channery fine sandy loam
23 to 60 inches—dark yellowish brown very channery fine sandy loam

Tuckasegee

Surface layer:
0 to 14 inches—very dark brown cobbly loam

Subsurface layer:
14 to 17 inches—dark brown cobbly loam

Subsoil:
17 to 42 inches—strong brown cobbly loam
42 to 60 inches—strong brown cobbly sandy clay loam

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to bedrock; in similar landform positions
- Soils that have a water table between a depth of 2 and 4 feet; in similar landform positions

Similar components:
- Soils that are similar to the Cullasaja soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Cullasaja soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thicker dark surface layers; in similar landform positions

- Soils that are similar to the Tuckasegee soil and have more development; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cullasaja—low (about 5.4 inches); Tuckasegee—high (about 9.4 inches)
Slowest saturated hydraulic conductivity: Cullasaja—high (about 1.98 in/hr); Tuckasegee—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland

Land capability class: 7e
Virginia soil management group: Cullasaja—FF; Tuckasegee—G
Hydric soils: No

14C—Cullasaja-Tuckasegee-Dellwood complex, 0 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Drainageways and ridges on mountains (Cullasaja and Tuckasegee) and flood plains in river valleys (Dellwood)
Position on the landform: Linear to concave footslopes and toeslopes (Cullasaja and Tuckasegee) and steps (Dellwood)
Elevation: 1,300 to 3,500 feet
Size of areas: 5 to 100 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Cullasaja and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Tuckasegee and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Dellwood and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Cullasaja

Surface layer:
0 to 3 inches—black channery mucky loam
3 to 7 inches—very dark brown channery loam

Subsoil:
7 to 16 inches—dark brown channery loam
16 to 23 inches—dark yellowish brown channery fine sandy loam
23 to 60 inches—dark yellowish brown very channery fine sandy loam

Tuckasegee

Surface layer:
0 to 14 inches—very dark brown cobbly loam

Subsurface layer:
14 to 17 inches—dark brown cobbly loam

Subsoil:
17 to 42 inches—strong brown cobbly loam
42 to 60 inches—strong brown cobbly sandy clay loam

Dellwood

Surface layer:
0 to 8 inches—very dark grayish brown cobbly sandy loam
8 to 14 inches—dark yellowish brown very cobbly sandy loam

Subsoil:
14 to 18 inches—dark yellowish brown cobbly sandy loam

Substratum:
18 to 60 inches—brown very cobbly loamy sand

Minor Components

Dissimilar components:
- Delanco soils, which are rarely flooded; in low terrace positions
- Soils that are less than 60 inches to bedrock; in similar landform positions
- Soils that have a water table between a depth of 2 and 4 feet; in similar landform positions

Similar components:
- Soils that are similar to the Cullasaja soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Dellwood soil and have thinner or less dark surface layers; in similar landform positions
- Soils that are similar to the Cullasaja soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Dellwood soil and have thicker dark surface layers; in similar landform positions
- Soils that are similar to the Tuckasegee soil and have more development; in similar landform positions

Soil Properties and Qualities

Available water capacity: Cullasaja—low (about 5.4 inches); Tuckasegee—high (about 9.4 inches); Dellwood—very low (about 2.9 inches)
Slowest saturated hydraulic conductivity: Cullasaja and Dellwood—high (about 1.98 in/hr); Tuckasegee—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Cullasaja and Tuckasegee—well drained; Dellwood—moderately well drained
Depth to seasonal water saturation: Cullasaja and Tuckasegee—more than 6 feet; Dellwood—about 24 to 48 inches
Water table kind: Apparent
Flooding hazard: Cullasaja and Tuckasegee—none; Dellwood—occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Cullasaja and Tuckasegee—low; Dellwood—very low
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Cullasaja and Tuckasegee—colluvium from metamorphic and igneous materials; Dellwood—alluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Cullasaja and Tuckasegee—7s; Dellwood—6s
Virginia soil management group: Cullasaja—FF; Tuckasegee—G; Dellwood—CC
Hydric soils: No

15E—Drapermill gravelly loam, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 480 acres

Map Unit Composition

Drapermill and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

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

Subsoil:
3 to 7 inches—yellowish brown gravelly silt loam
7 to 29 inches—strong brown gravelly silt loam

Substratum:
29 to 35 inches—strong brown channery silt loam and red silty clay

Hard bedrock:
35 to 80 inches—indurated phyllite bedrock

Minor Components

Dissimilar components:
- Littlejoe soils, which have 35 to 60 percent clay in the subsoil and are deep to bedrock; in similar and less steep landform positions
- Penhook soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Soils that have mafic geology; in similar landform positions
- Soils that are deep or very deep to bedrock and have 18 to 35 percent clay in the subsoil; in similar landform positions

Similar components:
- Strawfield soils, which are similar to the Drapermill soil and have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions

Soil Properties and Qualities

Available water capacity: Low (about 5.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from phyllite and schist

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pastureland.

Woodland

Suitability: Moderately suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.

- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: U
Hydric soil: No

16C—Edneytown-Sauratown complex, 8 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 50 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Sauratown and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Edneytown

Surface layer:
0 to 4 inches—dark yellowish brown gravelly loam

Subsoil:
4 to 12 inches—strong brown loam
12 to 35 inches—yellowish red clay loam
35 to 45 inches—strong brown clay loam
45 to 52 inches—strong brown loam

Substratum:
52 to 65 inches—strong brown fine sandy loam

Sauratown

Surface layer:
0 to 3 inches—dark yellowish brown gravelly loam

Subsoil:
3 to 8 inches—dark yellowish brown clay loam
8 to 26 inches—strong brown clay loam

Soft bedrock:
26 to 33 inches—moderately cemented granitic gneiss bedrock

Hard bedrock:
33 to 80 inches—indurated granitic gneiss bedrock

Minor Components

Dissimilar components:
- Peaks soils, which have less than 18 percent clay and more than 35 percent rock fragments in the subsoil; in similar and steeper landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions

Similar components:
- Ashe soils, which are similar to the Sauratown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Edneyville soils, which are similar to the Edneytown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Hayesville soils, which are similar to the Edneytown soil and have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Edneytown soil and are deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Sauratown soil and are moderately deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Edneytown—moderate (about 8.4 inches); Sauratown—low (about 3.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Edneytown—very deep (more than 60 inches); Sauratown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Edneytown—more than 60 inches; Sauratown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained

Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Edneytown—medium; Sauratown—high
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to eastern white pine; moderately suited to northern red oak and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Edneytown—L; Sauratown—CC
Hydric soils: No

16D—Edneytown-Sauratown complex, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear, convex, and concave summits, shoulders, backslopes, and footslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 25 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 70 percent, ranging from about 65 to 75 percent
Sauratown and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Edneytown

Surface layer:
0 to 4 inches—dark yellowish brown gravelly loam

Subsoil:
4 to 12 inches—strong brown loam
12 to 35 inches—yellowish red clay loam
35 to 45 inches—strong brown clay loam
45 to 52 inches—strong brown loam

Substratum:
52 to 65 inches—strong brown fine sandy loam

Sauratown

Surface layer:
0 to 3 inches—dark yellowish brown gravelly loam

Subsoil:
3 to 8 inches—dark yellowish brown clay loam
8 to 26 inches—strong brown clay loam

Soft bedrock:
26 to 33 inches—moderately cemented granitic gneiss bedrock

Hard bedrock:
33 to 80 inches—indurated granitic gneiss bedrock

Minor Components

Dissimilar components:
- Peaks soils, which have less than 18 percent clay and more than 35 percent rock fragments in the subsoil; in similar and steeper landform positions
- Wintergreen soils, which are colluvial; in similar and less steep landform positions
- Soils that are deep to unweathered bedrock; in similar landform positions

Similar components:
- Ashe soils, which are similar to the Sauratown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions

- Edneyville soils, which are similar to the Edneytown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Hayesville soils, which are similar to the Edneytown soil and have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Edneytown soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Sauratown soil and moderately deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Edneytown—moderate (about 8.0 inches); Sauratown—low (about 3.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Edneytown—very deep (more than 60 inches); Sauratown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Edneytown—more than 60 inches; Sauratown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to eastern white pine; moderately suited to northern red oak, chestnut oak, and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Edneytown—7e; Sauratown—7s
Virginia soil management group: Edneytown—L; Sauratown—CC
Hydric soils: No

16E—Edneytown-Sauratown complex, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 260 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Sauratown and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Edneytown

Surface layer:
0 to 4 inches—dark yellowish brown gravelly loam

Subsoil:
4 to 12 inches—strong brown loam
12 to 35 inches—yellowish red clay loam
35 to 45 inches—strong brown clay loam
45 to 52 inches—strong brown loam

Substratum:
52 to 65 inches—strong brown fine sandy loam

Sauratown

Surface layer:
0 to 3 inches—dark yellowish brown gravelly loam

Subsoil:
3 to 8 inches—dark yellowish brown clay loam
8 to 26 inches—strong brown clay loam

Soft bedrock:
26 to 33 inches—moderately cemented granitic gneiss bedrock

Hard bedrock:
33 to 80 inches—indurated granitic gneiss bedrock

Minor Components

Dissimilar components:
- Peaks soils, which have less than 18 percent clay and more than 35 percent rock fragments in the subsoil; in similar and steeper landform positions
- Soils that have less than 18 percent clay in the subsoil and are deep to unweathered bedrock; in similar landform positions
- Soils that have bedrock within a depth of 20 inches; in similar and steeper landform positions

Similar components:
- Ashe soils, which are similar to the Sauratown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Edneyville soils, which are similar to the Edneytown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Hayesville soils, which are similar to the Edneytown soil and have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Edneytown soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Sauratown soil and moderately deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Edneytown—moderate (about 8.0 inches); Sauratown—low (about 3.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Edneytown—very deep (more than 60 inches); Sauratown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Edneytown—more than 60 inches; Sauratown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to eastern white pine; moderately suited to northern red oak, chestnut oak, and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Edneytown—L; Sauratown—CC
Hydric soils: No

16F—Edneytown-Sauratown complex, 45 to 95 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes

Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 240 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Sauratown and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Edneytown

Surface layer:
0 to 4 inches—dark yellowish brown gravelly loam

Subsoil:
4 to 12 inches—strong brown loam
12 to 35 inches—yellowish red clay loam
35 to 45 inches—strong brown clay loam
45 to 52 inches—strong brown loam

Substratum:
52 to 65 inches—strong brown fine sandy loam

Sauratown

Surface layer:
0 to 3 inches—dark yellowish brown gravelly loam

Subsoil:
3 to 8 inches—dark yellowish brown clay loam
8 to 26 inches—strong brown clay loam

Soft bedrock:
26 to 33 inches—moderately cemented granitic gneiss bedrock

Hard bedrock:
33 to 80 inches—indurated granitic gneiss bedrock

Minor Components

Dissimilar components:
- Peaks soils, which have less than 18 percent clay and more than 35 percent rock fragments in the subsoil; in similar and steeper landform positions
- Soils that have less than 18 percent clay in the subsoil and are deep to unweathered bedrock; in similar landform positions
- Soils that have bedrock within a depth of 20 inches; in similar and steeper landform positions

Similar components:
- Ashe soils, which are similar to the Sauratown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Edneyville soils, which are similar to the Edneytown soil and have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Hayesville soils, which are similar to the Edneytown soil and have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that are similar to the Edneytown soil and deep to partially weathered bedrock; in similar landform positions

- Soils that are similar to the Sauratown soil and moderately deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Edneytown—moderate (about 8.0 inches); Sauratown—low (about 3.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Edneytown—very deep (more than 60 inches); Sauratown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Edneytown—more than 60 inches; Sauratown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to eastern white pine; moderately suited to northern red oak, chestnut oak, and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is

reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Edneytown—L; Sauratown—CC
Hydric soils: No

17B—Elsinboro-Colescreek complex, 2 to 8 percent slopes, rarely flooded

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Low stream terraces in river valleys
Position on the landform: Linear to concave treads
Elevation: 700 to 1,300 feet
Size of areas: 3 to 120 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Elsinboro and similar soils: Typically 70 percent, ranging from about 65 to 75 percent
Colescreek and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Elsinboro

Surface layer:
0 to 11 inches—brown loam

Subsoil:
11 to 25 inches—strong brown clay loam
25 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 60 inches—brown sandy loam

Colescreek

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 16 inches—yellowish brown clay loam
16 to 25 inches—yellowish brown sandy clay loam
25 to 33 inches—yellowish brown clay loam with yellowish brown masses of oxidized iron
33 to 42 inches—light yellowish brown sandy clay loam with very dark brown iron-

manganese concretions, light gray iron depletions, and yellowish brown masses of oxidized iron
42 to 50 inches—light gray clay loam with yellowish brown masses of oxidized iron
50 to 56 inches—light gray sandy clay loam with yellowish brown masses of oxidized iron

Substratum:
56 to 70 inches—gray sand with light yellowish brown masses of oxidized iron
70 to 80 inches—light brownish gray sand

Minor Components

Dissimilar components:
- Comus soils, which have less than 18 percent clay in the subsoil and are occasionally flooded; in flood plain positions
- Maggodee soils, which have less than 18 percent clay in the subsoil and are occasionally flooded; in flood plain positions
- Wintergreen soils, which have 35 to 60 percent clay in the subsoil and are non-flooded; in high stream terrace and interfluve positions
- Soils that have low-chroma depletions at a shallower depth; in similar and wetter landform positions

Similar components:
- Soils that are similar to the Elsinboro soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Colescreek soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Colescreek soil, are well drained, and have a water table between a depth of 40 and 48 inches; in similar landform positions

Soil Properties and Qualities

Available water capacity: Elsinboro—moderate (about 7.5 inches); Colescreek—moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Elsinboro—well drained; Colescreek—moderately well drained
Depth to seasonal water saturation: Elsinboro—more than 60 inches; Colescreek—about 30 to 42 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Alluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: L
Hydric soils: No

18E—Goblintown-Drapermill-Penhook complex, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 100 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Goblintown and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Drapermill and similar soils: Typically 20 percent, ranging from about 15 to 25 percent
Penhook and similar soils: Typically 10 percent, ranging from about 5 to 15 percent

Typical Profile

Goblintown

Surface layer:
0 to 8 inches—very dark grayish brown loam

Subsoil:
8 to 12 inches—very dark grayish brown clay loam
12 to 25 inches—dark brown clay
25 to 29 inches—dark yellowish brown clay loam with common strong brown mottles and very dark gray channery clay loam

Substratum:
29 to 36 inches—very dark gray very parachannery silt loam with many dark yellowish brown mottles

Soft bedrock:
36 to 62 inches—moderately cemented graphitic schist bedrock

Drapermill

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

Subsoil:
3 to 7 inches—yellowish brown gravelly silt loam
7 to 29 inches—strong brown gravelly silt loam

Substratum:
29 to 35 inches—strong brown channery silt loam and red silty clay

Hard bedrock:
35 to 80 inches—indurated phyllite bedrock

Penhook

Surface layer:
0 to 6 inches—brown loam

Subsoil:
6 to 9 inches—yellowish red clay loam
9 to 43 inches—red clay
43 to 52 inches—red parachannery clay loam

Substratum:
52 to 63 inches—yellowish red, dark red, red, and reddish yellow loam

Minor Components

Dissimilar components:
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches and are less than 20 inches to bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Fairview soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Strawfield soils, which are similar to the Drapermill soil; in similar landform positions
- Soils that are similar to the Penhook soil and have dark surface layers; in similar landform positions
- Soils that are similar to the Drapermill soil and have dark surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Goblintown—moderate (about 6.1 inches); Drapermill—low (about 5.2 inches); Penhook—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Goblintown and Drapermill—moderately deep (20 to 40 inches); Penhook—very deep (more than 60 inches)
Depth to root-restrictive feature: Goblintown—20 to 40 inches to bedrock (paralithic); Drapermill—20 to 40 inches to bedrock (lithic); Penhook—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Goblintown and Penhook—moderate; Drapermill—low
Runoff class: High
Surface fragments: None
Parent material: Goblintown—residuum from graphitic schist and graphitic phyllite; Drapermill and Penhook—residuum from phyllite and schist

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to loblolly pine and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Goblintown—V; Drapermill—U; Penhook—X
Hydric soils: No

19C—Hayesville loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 670 acres

Map Unit Composition

Hayesville and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 9 inches—reddish brown loam

Subsoil:
9 to 48 inches—red clay
48 to 54 inches—red clay loam

Substratum:
54 to 61 inches—red loam

Minor Components

Dissimilar components:
- Edneyville and other soils that have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Wintergreen soils, which have a moderate shrink-swell potential; in similar and colluvial landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Hayesville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions

- Soils that are similar to the Hayesville soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Hayesville soil and have more clay in the lower part of the profile; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 10.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks, and mica schist and mica gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: X
Hydric soil: No

19D—Hayesville loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits, shoulders, and backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 150 acres

Map Unit Composition

Hayesville and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 9 inches—reddish brown loam

Subsoil:
9 to 48 inches—red clay
48 to 54 inches—red clay loam

Substratum:
54 to 61 inches—red loam

Minor Components

Dissimilar components:
- Edneyville and other soils that have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Wintergreen soils, which have a moderate shrink-swell potential; in similar and colluvial landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Hayesville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Hayesville soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Hayesville soil and have more clay in the lower part of the profile; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 10.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None

Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks and mica schist and mica gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

20E—Hayesville loam, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 820 acres

Map Unit Composition

Hayesville and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 9 inches—reddish brown loam

Subsoil:
9 to 48 inches—red clay
48 to 54 inches—red clay loam

Substratum:
54 to 61 inches—red loam

Minor Components

Dissimilar components:
- Edneyville and other soils that have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Hayesville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Hayesville soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Hayesville soil and have more clay in the lower part of the profile; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 10.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks and mica schist and mica gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pastureland.

Woodland

Suitability: Moderately suited to yellow-poplar and eastern white pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: X
Hydric soil: No

21F—Hickoryknob-Rhodhiss complex, 45 to 75 percent slopes, rocky

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 400 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Hickoryknob and similar soils: Typically 75 percent, ranging from about 70 to 80 percent
Rhodhiss and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Hickoryknob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 13 inches—brown channery loam
13 to 23 inches—yellowish red channery clay loam

Soft bedrock:
23 to 36 inches—moderately cemented mica schist bedrock

Hard bedrock:
36 to 80 inches—indurated mica schist bedrock

Rhodhiss

Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 5 inches—yellowish brown loam
5 to 20 inches—strong brown clay loam
20 to 30 inches—red clay loam
30 to 38 inches—yellowish red loam

Substratum:
38 to 60 inches—brownish yellow parachannery sandy loam
60 to 80 inches—yellowish red, red, brownish yellow, and strong brown loamy sand

Minor Components

Dissimilar components:
- Soils that have bedrock above a depth of 20 inches; in similar landform positions

Similar components:
- Stott Knob soils, which are similar to the Hickoryknob soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Hickoryknob soil and have less than 18 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Rhodhiss soil and have less than 18 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Rhodhiss soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Hickoryknob—low (about 3.3 inches); Rhodhiss—moderate (about 6.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Hickoryknob—moderately deep (20 to 40 inches); Rhodhiss—very deep (more than 60 inches)

Depth to root-restrictive feature: Hickoryknob—20 to 40 inches to bedrock (paralithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Hickoryknob—N; Rhodhiss—X
Hydric soils: No

22C—Hickoryknob-Rhodhiss-Stott Knob complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 45 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Hickoryknob and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Rhodhiss and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Stott Knob and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Hickoryknob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 13 inches—brown channery loam
13 to 23 inches—yellowish red channery clay loam

Soft bedrock:
23 to 36 inches—moderately cemented mica schist bedrock

Hard bedrock:
36 to 80 inches—indurated mica schist bedrock

Rhodhiss

Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 5 inches—yellowish brown loam
5 to 20 inches—strong brown clay loam
20 to 30 inches—red clay loam
30 to 38 inches—yellowish red loam

Substratum:
38 to 60 inches—brownish yellow parachannery sandy loam
60 to 80 inches—yellowish red, red, brownish yellow, and strong brown loamy sand

Stott Knob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 19 inches—yellowish red clay loam

Substratum:
19 to 31 inches—strong brown gravelly loam
31 to 38 inches—strong brown extremely parachannery loam

Soft bedrock:
38 to 80 inches—moderately cemented mica schist bedrock

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar and less steep landform positions
- Residual soils that are shallow to bedrock; in similar landform positions
- Colluvial soils that have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that have mafic geology; in similar landform positions

Similar components:
- Clifford and other soils that are similar to the Rhodhiss soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Woolwine soils, which are similar to the Stott Knob soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Stott Knob soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Rhodhiss soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Hickoryknob—low (about 3.3 inches); Rhodhiss—moderate (about 6.4 inches); Stott Knob—low (about 5.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Hickoryknob and Stott Knob—moderately deep (20 to 40 inches); Rhodhiss—very deep (more than 60 inches)
Depth to root-restrictive feature: Hickoryknob and Stott Knob—20 to 40 inches to bedrock (paralithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Hickoryknob and Stott Knob—high; Rhodhiss—medium
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

Suitability: Well suited to wheat; moderately suited to corn and soybeans; not suited to tobacco

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Hickoryknob and Stott Knob—N; Rhodhiss—X
Hydric soils: No

22D—Hickoryknob-Rhodhiss-Stott Knob complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 65 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Hickoryknob and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Rhodhiss and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Stott Knob and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Hickoryknob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 13 inches—brown channery loam
13 to 23 inches—yellowish red channery clay loam

Soft bedrock:
23 to 36 inches—moderately cemented mica schist bedrock

Hard bedrock:
36 to 80 inches—indurated mica schist bedrock

Rhodhiss

Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 5 inches—yellowish brown loam
5 to 20 inches—strong brown clay loam
20 to 30 inches—red clay loam
30 to 38 inches—yellowish red loam

Substratum:
38 to 60 inches—brownish yellow parachannery sandy loam
60 to 80 inches—yellowish red, red, brownish yellow, and strong brown loamy sand

Stott Knob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 19 inches—yellowish red clay loam

Substratum:
19 to 31 inches—strong brown gravelly loam
31 to 38 inches—strong brown extremely parachannery loam

Soft bedrock:
38 to 80 inches—moderately cemented mica schist bedrock

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in similar and less steep landform positions
- Residual soils that are shallow to bedrock; in similar landform positions

- Colluvial soils that have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Soils that have mafic geology; in similar landform positions

Similar components:
- Clifford and other soils that are similar to the Rhodhiss soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Woolwine soils, which are similar to the Stott Knob soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Stott Knob soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Rhodhiss soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Hickoryknob—low (about 3.3 inches); Rhodhiss—moderate (about 6.4 inches); Stott Knob—low (about 5.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Hickoryknob and Stott Knob—moderately deep (20 to 40 inches); Rhodhiss—very deep (more than 60 inches)
Depth to root-restrictive feature: Hickoryknob and Stott Knob—20 to 40 inches to bedrock (paralithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.

- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Hickoryknob and Stott Knob—N; Rhodhiss—X
Hydric soils: No

22E—Hickoryknob-Rhodhiss-Stott Knob complex, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 1,400 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Hickoryknob and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Rhodhiss and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Stott Knob and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Hickoryknob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 13 inches—brown channery loam
13 to 23 inches—yellowish red channery clay loam

Soft bedrock:
23 to 36 inches—moderately cemented mica schist bedrock

Hard bedrock:
36 to 80 inches—indurated mica schist bedrock

Rhodhiss

Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 5 inches—yellowish brown loam
5 to 20 inches—strong brown clay loam
20 to 30 inches—red clay loam
30 to 38 inches—yellowish red loam

Substratum:
38 to 60 inches—brownish yellow parachannery sandy loam
60 to 80 inches—yellowish red, red, brownish yellow, and strong brown loamy sand

Stott Knob

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 19 inches—yellowish red clay loam

Substratum:
19 to 31 inches—strong brown gravelly loam
31 to 38 inches—strong brown extremely parachannery loam

Soft bedrock:
38 to 80 inches—moderately cemented mica schist bedrock

Minor Components

Dissimilar components:
- Thurmont soils, which are colluvial; in less steep landform positions
- Residual soils that are shallow to bedrock; in similar landform positions
- Colluvial soils that have 35 to 60 percent clay in the subsoil; in less steep landform positions
- Soils that have mafic geology; in similar landform positions

Similar components:
- Clifford and other soils that are similar to the Rhodhiss soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Woolwine soils, which are similar to the Stott Knob soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Stott Knob soil and very deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Rhodhiss soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Hickoryknob—low (about 3.3 inches); Rhodhiss—moderate (about 6.4 inches); Stott Knob—low (about 5.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Hickoryknob and Stott Knob—moderately deep (20 to 40 inches); Rhodhiss—very deep (more than 60 inches)
Depth to root-restrictive feature: Hickoryknob and Stott Knob—20 to 40 inches to bedrock (paralithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Hickoryknob and Stott Knob—N; Rhodhiss—X
Hydric soils: No

23A—Iotla-Maggodee-Colescreek complex, 0 to 4 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Flood plains (Iotla and Maggodee) and low stream terraces (Colescreek) in river valleys
Position on the landform: Linear to concave steps (Iotla and Maggodee) and treads (Colescreek)
Elevation: 700 to 1,300 feet
Size of areas: 3 to 190 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Iotla and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Maggodee and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Colescreek and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Iotla

Surface layer:
0 to 3 inches—dark brown sandy loam

Subsoil:
3 to 13 inches—brown fine sandy loam
13 to 19 inches—brown fine sandy loam with dark yellowish brown masses of oxidized iron and grayish brown iron depletions
19 to 23 inches—light olive brown sandy loam with strong brown masses of oxidized iron
23 to 31 inches—gray fine sandy loam with yellowish red iron-manganese concretions and brownish yellow and olive brown masses of oxidized iron

Substratum:
31 to 43 inches—gray sandy loam
43 to 80 inches—light yellowish brown extremely cobbly loamy sand

Maggodee

Surface layer:
0 to 4 inches—dark brown fine sandy loam
4 to 13 inches—dark yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—brown fine sandy loam with brown iron depletions and dark yellowish brown masses of oxidized iron
20 to 30 inches—brown silt loam with dark brown masses of oxidized iron and very dark gray iron-manganese concretions
30 to 34 inches—dark gray loam with dark yellowish brown masses of oxidized iron
34 to 42 inches—dark gray loam with dark yellowish brown masses of oxidized iron
42 to 48 inches—dark gray loam with dark yellowish brown and yellowish brown masses of oxidized iron

Substratum:
48 to 54 inches—dark gray loam
54 to 60 inches—very dark gray sandy loam

Colescreek

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 16 inches—yellowish brown clay loam
16 to 25 inches—yellowish brown sandy clay loam
25 to 33 inches—yellowish brown clay loam with yellowish brown masses of oxidized iron
33 to 42 inches—light yellowish brown sandy clay loam with very dark brown iron-manganese concretions, light gray iron depletions, and yellowish brown masses of oxidized iron
42 to 50 inches—light gray clay loam with yellowish brown masses of oxidized iron
50 to 56 inches—light gray sandy clay loam with yellowish brown masses of oxidized iron

Substratum:
56 to 70 inches—gray sand with light yellowish brown masses of oxidized iron
70 to 80 inches—light brownish gray sand

Minor Components

Dissimilar components:
- Delanco soils, which have 18 to 35 percent clay in the subsoil and a water table above a depth of 2 feet; in similar landform positions
- Soils that have 35 to 60 percent clay in the subsoil and a water table above a depth of 2 feet; in similar landform positions
- Low stream terrace soils that have 35 to 60 percent clay in the subsoil and a water table below a depth of 4 feet; in similar landform positions

Similar components:
- Flood plain soils that are similar to the Iotla soil, have 18 to 35 percent clay in the subsoil, and have a water table between a depth of 1 and 4 feet; in similar landform positions
- Flood plain soils that are similar to the Maggodee soil, have 18 to 35 percent clay in the subsoil, and have a water table between a depth of 1 and 4 feet; in similar landform positions
- Low stream terrace soils that are similar to the Colescreek soil, have 35 to 60 percent clay in the subsoil, and have a water table between a depth of 2 and 4 feet; in similar landform positions

Soil Properties and Qualities

Available water capacity: Iotla—moderate (about 7.8 inches); Maggodee—high (about 9.8 inches); Colescreek—moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Iotla and Maggodee—high (about 1.98 in/hr); Colescreek—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Iotla—somewhat poorly drained; Maggodee and Colescreek—moderately well drained
Depth to seasonal water saturation: Iotla—about 18 to 42 inches; Maggodee—about 18 to 36 inches; Colescreek—about 30 to 42 inches
Water table kind: Apparent
Flooding hazard: Iotla and Maggodee—occasional; Colescreek—rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Iotla and Maggodee—very low; Colescreek—low
Surface fragments: None
Parent material: Alluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; moderately suited to tobacco
- Excessive permeability increases the risk of ground-water contamination.
- Flooding may damage crops.

Pastureland

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

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: Iotla—4w; Maggodee—2w; Colescreek—2e
Virginia soil management group: Iotla and Maggodee—A; Colescreek—L
Hydric soils: No

24B—Jackland-Mirerock-Redbrush complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to concave (Jackland) and linear to convex (Mirerock and Redbrush) summits and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 50 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Jackland and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Mirerock and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Redbrush and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Jackland

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

Subsoil:
6 to 14 inches—light olive brown silt loam with light yellowish brown iron depletions and dark brown iron-manganese concretions
14 to 23 inches—olive brown clay with dark yellowish brown masses of oxidized iron and dark grayish brown iron depletions
23 to 40 inches—grayish brown clay with yellowish red masses of oxidized iron and gray iron depletions
40 to 48 inches—gray clay with yellowish red masses of oxidized iron

Substratum:
48 to 53 inches—gray sandy clay with dark yellowish brown masses of oxidized iron
53 to 63 inches—greenish gray sandy clay loam with brown masses of oxidized iron
63 to 80 inches—white, very dark gray, and strong brown loam

Mirerock

Surface layer:
0 to 6 inches—dark grayish brown gravelly loam with black iron-manganese concretions

Subsoil:
6 to 17 inches—light olive brown loam with black iron-manganese concretions
17 to 23 inches—yellowish brown clay with black iron-manganese concretions
23 to 35 inches—olive and dark yellowish brown clay

Soft bedrock:
35 to 49 inches—moderately cemented amphibolite bedrock

Hard bedrock:
49 to 80 inches—indurated amphibolite bedrock

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Minnieville soils, which have less than 60 percent base saturation; in similar and older landform positions
- Orenda soils, which have less than 60 percent base saturation; in similar and older landform positions
- Soils that are less than 20 inches to bedrock; in similar and steeper landform positions
- Soils that are well drained and very deep to unweathered bedrock; in similar landform positions

Similar components:
- Bluemount soils, which are similar to the Redbrush soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the the Jackland soil and are deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Jackland soil and moderately well drained; in similar landform positions
- Soils that are similar to the Mirerock soil, have no paralithic contact, and are deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Jackland—moderate (about 6.8 inches); Mirerock—low (about 5.2 inches); Redbrush—low (about 3.7 inches)
Slowest saturated hydraulic conductivity: Jackland and Redbrush—low (about 0.00 in/hr); Mirerock—moderately high (about 0.20 in/hr)
Depth class: Jackland—very deep (more than 60 inches); Mirerock and Redbrush—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Jackland—more than 60 inches; Mirerock and Redbrush—20 to 40 inches to bedrock (paralithic)
Drainage class: Jackland—somewhat poorly drained; Mirerock and Redbrush—well drained
Depth to seasonal water saturation: Jackland—about 12 to 24 inches; Mirerock and Redbrush—more than 6 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Jackland—very high; Mirerock and Redbrush—high
Runoff class: Jackland—very high; Mirerock and Redbrush—high
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soils are wet.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Jackland—4w; Mirerock and Redbrush—2e
Virginia soil management group: Jackland and Mirerock—KK; Redbrush—Y
Hydric soils: No

24C—Jackland-Mirerock-Redbrush complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to concave (Jackland) and linear to convex (Mirerock and Redbrush) summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 300 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Jackland and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Mirerock and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Redbrush and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Jackland

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

Subsoil:
6 to 14 inches—light olive brown silt loam with light yellowish brown iron depletions and dark brown iron-manganese concretions
14 to 23 inches—olive brown clay with dark yellowish brown masses of oxidized iron and dark grayish brown iron depletions
23 to 40 inches—grayish brown clay with yellowish red masses of oxidized iron and gray iron depletions
40 to 48 inches—gray clay with yellowish red masses of oxidized iron

Substratum:
48 to 53 inches—gray sandy clay with dark yellowish brown masses of oxidized iron
53 to 63 inches—greenish gray sandy clay loam with brown masses of oxidized iron
63 to 80 inches—white, very dark gray, and strong brown loam

Mirerock

Surface layer:
0 to 6 inches—dark grayish brown gravelly loam with black iron-manganese concretions

Subsoil:
6 to 17 inches—light olive brown loam with black iron-manganese concretions
17 to 23 inches—yellowish brown clay with black iron-manganese concretions
23 to 35 inches—olive and dark yellowish brown clay

Soft bedrock:
35 to 49 inches—moderately cemented amphibolite bedrock

Hard bedrock:
49 to 80 inches—indurated amphibolite bedrock

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Minnieville soils, which have less than 60 percent base saturation; in similar and older landform positions
- Orenda soils, which have less than 60 percent base saturation; in similar and older landform positions
- Soils that are less than 20 inches to bedrock; in similar and steeper landform positions
- Soils that are well drained and very deep to unweathered bedrock; in similar landform positions

Similar components:
- Bluemount soils, which are similar to the Redbrush soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Jackland soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Jackland soil and moderately well drained; in similar landform positions
- Soils that are similar to the Mirerock soil, have no paralithic contact, and are deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Jackland—moderate (about 6.8 inches); Mirerock—low (about 5.2 inches); Redbrush—low (about 3.7 inches)
Slowest saturated hydraulic conductivity: Jackland and Redbrush—low (about 0.00 in/hr); Mirerock—moderately high (about 0.20 in/hr)
Depth class: Jackland—very deep (more than 60 inches); Mirerock and Redbrush—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Jackland—more than 60 inches; Mirerock and Redbrush—20 to 40 inches to bedrock (paralithic)
Drainage class: Jackland—somewhat poorly drained; Mirerock and Redbrush—well drained
Depth to seasonal water saturation: Jackland—about 12 to 24 inches; Mirerock and Redbrush—more than 6 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Jackland—very high; Mirerock and Redbrush—high
Runoff class: Jackland—very high; Mirerock and Redbrush—high
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

Pastureland

Suitability: Moderately suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soils are wet.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Jackland—4w; Mirerock and Redbrush—3e
Virginia soil management group: Jackland and Mirerock—KK; Redbrush—Y
Hydric soils: No

25C—Littlejoe-Penhook-Goblintown complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 5 to 125 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Littlejoe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Penhook and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Goblintown and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Littlejoe

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

Subsoil:
8 to 20 inches—strong brown clay loam
20 to 45 inches—red clay

Soft bedrock:
45 to 59 inches—moderately cemented phyllite bedrock

Hard bedrock:
59 to 80 inches—indurated phyllite bedrock

Penhook

Surface layer:
0 to 6 inches—brown loam

Subsoil:
6 to 9 inches—yellowish red clay loam
9 to 43 inches—red clay
43 to 52 inches—red parachannery clay loam

Substratum:
52 to 63 inches—yellowish red, dark red, red, and reddish yellow loam

Goblintown

Surface layer:
0 to 8 inches—very dark grayish brown loam

Subsoil:
8 to 12 inches—very dark grayish brown clay loam
12 to 25 inches—dark brown clay
25 to 29 inches—dark yellowish brown clay loam with common strong brown mottles and very dark gray channery clay loam

Substratum:
29 to 36 inches—very dark gray very parachannery silt loam with many dark yellowish brown mottles

Soft bedrock:
36 to 62 inches—moderately cemented graphitic schist bedrock

Minor Components

Dissimilar components:
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar landform positions
- Strawfield soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches and are less than 20 inches to bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Fairview soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Westfield soils, which are similar to the Littlejoe soil and have less silt throughout the profile; in similar landform positions
- Soils that are similar to the Penhook soil and have dark surface layers; in similar landform positions
- Soils that are similar to the Littlejoe soil and have dark surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Littlejoe—moderate (about 7.0 inches); Penhook—moderate (about 8.3 inches); Goblintown—moderate (about 6.1 inches)
Slowest saturated hydraulic conductivity: Littlejoe—moderately high (about 0.20 in/hr); Penhook and Goblintown—moderately high (about 0.57 in/hr)
Depth class: Littlejoe—deep (40 to 60 inches); Penhook—very deep (more than 60 inches); Goblintown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Littlejoe—40 to 60 inches to bedrock (paralithic); Penhook—more than 60 inches; Goblintown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None

Shrink-swell potential: Moderate
Runoff class: Littlejoe and Penhook—medium; Goblintown—high
Surface fragments: None
Parent material: Littlejoe and Penhook—residuum from phyllite and schist; Goblintown—residuum from graphitic schist and graphitic phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Littlejoe and Goblintown—V; Penhook—X
Hydric soils: No

25D—Littlejoe-Penhook-Goblintown complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 20 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Littlejoe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Penhook and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Goblintown and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Littlejoe

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

Subsoil:
8 to 20 inches—strong brown clay loam
20 to 45 inches—red clay

Soft bedrock:
45 to 59 inches—moderately cemented phyllite bedrock

Hard bedrock:
59 to 80 inches—indurated phyllite bedrock

Penhook

Surface layer:
0 to 6 inches—brown loam

Subsoil:
6 to 9 inches—yellowish red clay loam
9 to 43 inches—red clay
43 to 52 inches—red parachannery clay loam

Substratum:
52 to 63 inches—yellowish red, dark red, red, and reddish yellow loam

Goblintown

Surface layer:
0 to 8 inches—very dark grayish brown loam

Subsoil:
8 to 12 inches—very dark grayish brown clay loam
12 to 25 inches—dark brown clay

25 to 29 inches—dark yellowish brown clay loam with common strong brown mottles and very dark gray channery clay loam

Substratum:
29 to 36 inches—very dark gray very parachannery silt loam with many dark yellowish brown mottles

Soft bedrock:
36 to 62 inches—moderately cemented graphitic schist bedrock

Minor Components

Dissimilar components:
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar landform positions
- Strawfield soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Drapermill soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches and are less than 20 inches to bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Fairview soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Westfield soils, which are similar to the Littlejoe soil and have less silt throughout the profile; in similar landform positions
- Soils that are similar to the Penhook soil and have dark surface layers; in similar landform positions
- Soils that are similar to the Littlejoe soil and have dark surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Littlejoe—moderate (about 7.0 inches); Penhook—moderate (about 8.3 inches); Goblintown—moderate (about 6.1 inches)
Slowest saturated hydraulic conductivity: Littlejoe—moderately high (about 0.20 in/hr); Penhook and Goblintown—moderately high (about 0.57 in/hr)
Depth class: Littlejoe—deep (40 to 60 inches); Penhook—very deep (more than 60 inches); Goblintown—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Littlejoe—40 to 60 inches to bedrock (paralithic); Penhook—more than 60 inches; Goblintown—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Littlejoe and Penhook—residuum from phyllite and schist; Goblintown—residuum from graphitic schist and graphitic phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Littlejoe and Goblintown—V; Penhook—X
Hydric soils: No

26C—Littlejoe-Strawfield-Penhook complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 330 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Littlejoe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Strawfield and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Penhook and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Littlejoe

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

Subsoil:
8 to 20 inches—strong brown clay loam
20 to 45 inches—red clay

Soft bedrock:
45 to 59 inches—moderately cemented phyllite bedrock

Hard bedrock:
59 to 80 inches—indurated phyllite bedrock

Strawfield

Surface layer:
0 to 2 inches—brown clay loam

Subsoil:
2 to 9 inches—strong brown clay loam
9 to 16 inches—red clay

Substratum:
16 to 22 inches—fractured bedrock material and red clay

Hard bedrock:
22 to 80 inches—indurated phyllite bedrock

Penhook

Surface layer:
0 to 6 inches—brown loam

Subsoil:
6 to 9 inches—yellowish red clay loam
9 to 43 inches—red clay
43 to 52 inches—red parachannery clay loam

Substratum:
52 to 63 inches—yellowish red, dark red, red, and reddish yellow loam

Minor Components

Dissimilar components:
- Wintergreen soils, which have a moderate shrink-swell potential; in colluvial and alluvial landform positions
- Soils that have bedrock above a depth of 20 inches; in similar landform positions
- Soils that have more than 35 percent rock fragments in the subsoil; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Soils that are similar to the Penhook soil and have more clay lower in the profile; in similar landform positions
- Soils that are similar to the Strawfield soil and deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Littlejoe—moderate (about 7.0 inches); Strawfield—low (about 3.7 inches); Penhook—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Littlejoe—moderately high (about 0.20 in/hr); Strawfield and Penhook—moderately high (about 0.57 in/hr)
Depth class: Littlejoe—deep (40 to 60 inches); Strawfield—moderately deep (20 to 40 inches); Penhook—very deep (more than 60 inches)
Depth to root-restrictive feature: Littlejoe—40 to 60 inches to bedrock (paralithic); Strawfield—20 to 40 inches to bedrock (lithic); Penhook—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Littlejoe and Penhook—medium; Strawfield—high
Surface fragments: None
Parent material: Residuum from phyllite and schist

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential

negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Littlejoe and Penhook—3e; Strawfield—4e
Virginia soil management group: Littlejoe—V; Strawfield and Penhook—X
Hydric soils: No

26D—Littlejoe-Strawfield-Penhook complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 145 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Littlejoe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Strawfield and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Penhook and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Littlejoe

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

Subsoil:
8 to 20 inches—strong brown clay loam
20 to 45 inches—red clay

Soft bedrock:
45 to 59 inches—moderately cemented phyllite bedrock

Hard bedrock:
59 to 80 inches—indurated phyllite bedrock

Strawfield

Surface layer:
0 to 2 inches—brown clay loam

Subsoil:
2 to 9 inches—strong brown clay loam
9 to 16 inches—red clay

Substratum:
16 to 22 inches—fractured bedrock material and red clay

Hard bedrock:
22 to 80 inches—indurated phyllite bedrock

Penhook

Surface layer:
0 to 6 inches—brown loam

Subsoil:
6 to 9 inches—yellowish red clay loam
9 to 43 inches—red clay
43 to 52 inches—red parachannery clay loam

Substratum:
52 to 63 inches—yellowish red, dark red, red, and reddish yellow loam

Minor Components

Dissimilar components:
- Wintergreen soils, which have a moderate shrink-swell potential; in colluvial and alluvial landform positions
- Soils that have bedrock above a depth of 20 inches; in similar landform positions
- Soils that have more than 35 percent rock fragments in the subsoil; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Penhook soil and have less silt throughout the profile; in similar landform positions
- Soils that are similar to the Penhook soil and have more clay lower in the profile; in similar landform positions
- Soils that are similar to the Strawfield soil and deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Littlejoe—moderate (about 7.0 inches); Strawfield—low (about 3.7 inches); Penhook—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Littlejoe—moderately high (about 0.20 in/hr); Strawfield and Penhook—moderately high (about 0.57 in/hr)

Depth class: Littlejoe—deep (40 to 60 inches); Strawfield—moderately deep (20 to 40 inches); Penhook—very deep (more than 60 inches)
Depth to root-restrictive feature: Littlejoe—40 to 60 inches to bedrock (paralithic); Strawfield—20 to 40 inches to bedrock (lithic); Penhook—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Residuum from phyllite and schist

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Littlejoe and Penhook—4e; Strawfield—5e
Virginia soil management group: Littlejoe—V; Strawfield and Penhook—X
Hydric soils: No

27B—Minnieville loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex summits
Elevation: 700 to 1,300 feet
Size of areas: 3 to 135 acres

Map Unit Composition

Minnieville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions
- Soils that have 18 to 35 percent clay in the subsoil and higher base saturation; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Minnieville soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: N
Hydric soil: No

27C—Minnieville loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 350 acres

Map Unit Composition

Minnieville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions
- Soils that have 18 to 35 percent clay in the subsoil and higher base saturation; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Minnieville soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: N
Hydric soil: No

27D—Minnieville loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills

Position on the landform: Linear, convex, and concave shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 275 acres

Map Unit Composition

Minnieville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions
- Soils that have 18 to 35 percent clay in the subsoil and higher base saturation; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Minnieville soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: N
Hydric soil: No

27E—Minnieville loam, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 415 acres

Map Unit Composition

Minnieville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions
- Soils that have 18 to 35 percent clay in the subsoil and higher base saturation; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Minnieville soil and deep to partially weathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pastureland.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.

- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: N
Hydric soil: No

28C—Minnieville-Orenda-Redbrush complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 80 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Minnieville and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Orenda and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Redbrush and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Minnieville

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Orenda

Surface layer:
0 to 6 inches—brown loam with black iron-manganese concretions

Subsoil:
6 to 25 inches—yellowish red clay with black iron-manganese concretions

Substratum:
25 to 62 inches—strong brown, black, yellowish brown, and grayish brown loam

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are deep to partially weathered and unweathered bedrock; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay lower in the profile; in similar landform positions
- Soils that are similar to the Minnieville and Orenda soils and are deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Redbrush soil, are very deep to unweathered bedrock, and have lower base saturation; in similar landform positions

Soil Properties and Qualities

Available water capacity: Minnieville—moderate (about 7.2 inches); Orenda—moderate (about 7.7 inches); Redbrush—low (about 3.7 inches)
Slowest saturated hydraulic conductivity: Minnieville—moderately high (about 0.57 in/hr); Orenda—moderately high (about 0.20 in/hr); Redbrush—low (about 0.00 in/hr)
Depth class: Minnieville and Orenda—very deep (more than 60 inches); Redbrush—moderately deep (20 to 40 inches)

Depth to root-restrictive feature: Minnieville and Orenda—more than 60 inches; Redbrush—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Minnieville and Orenda—moderate; Redbrush—high
Runoff class: Minnieville—medium; Orenda and Redbrush—high
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is

reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Minnieville—N; Orenda—KK; Redbrush—Y
Hydric soils: No

28D—Minnieville-Orenda-Redbrush complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 80 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Minnieville and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Orenda and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Redbrush and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Minnieville

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Orenda

Surface layer:
0 to 6 inches—brown loam; black iron-manganese concretions

Subsoil:
6 to 25 inches—yellowish red clay; black iron-manganese concretions

Substratum:
25 to 62 inches—strong brown, black, yellowish brown, and grayish brown loam

Redbrush

Surface layer:
0 to 5 inches—very dark grayish brown loam with dark brown iron-manganese concretions

Subsoil:
5 to 12 inches—olive brown loam with dark brown iron-manganese concretions
12 to 23 inches—olive brown clay

Substratum:
23 to 26 inches—olive brown, light olive brown, and very dark grayish brown silt loam and olive brown clay
26 to 30 inches—olive brown, light olive brown, and very dark grayish brown silt loam

Soft bedrock:
30 to 38 inches—moderately cemented amphibolite bedrock

Hard bedrock:
38 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are deep to partially weathered and unweathered bedrock; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay lower in the profile; in similar landform positions
- Soils that are similar to the Minnieville and Orenda soils and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Redbrush soil, are very deep to unweathered bedrock, and have lower base saturation; in similar landform positions

Soil Properties and Qualities

Available water capacity: Minnieville—moderate (about 7.2 inches); Orenda—moderate (about 7.7 inches); Redbrush—low (about 3.7 inches)
Slowest saturated hydraulic conductivity: Minnieville—moderately high (about 0.57 in/hr); Orenda—moderately high (about 0.20 in/hr); Redbrush—low (about 0.00 in/hr)
Depth class: Minnieville and Orenda—very deep (more than 60 inches); Redbrush—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Minnieville and Orenda—more than 60 inches; Redbrush—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Minnieville and Orenda—moderate; Redbrush—high
Runoff class: Minnieville—high; Orenda and Redbrush—very high
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Minnieville—N; Orenda—KK; Redbrush—Y
Hydric soils: No

29C—Minnieville-Urban land complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 25 to 130 acres

Map Unit Composition

Note: This soil and miscellaneous land type occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Minnieville and similar soils: Typically 75 percent, ranging from about 70 to 80 percent
Urban land: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Minnieville

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 8 inches—dark red clay loam
8 to 53 inches—red clay
53 to 81 inches—red clay loam

Urban land

This part of the map unit consist of areas covered by asphalt or concrete, such as roadways and parking lots. Also included are structures, buildings, and other impervious surfaces.

Minor Components

Dissimilar components:
- Soils that are less than 60 inches to unweathered bedrock; in similar landform positions
- Soils that have higher base saturation; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Minnieville soil and have felsic geology; in similar landform positions
- Soils that are similar to the Minnieville soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Minnieville soil and deep to partially weathered bedrock; in similar landform positions

Properties and Qualities of the Minnieville Soil

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland, pastureland, and woodland

- Because of the proximity to urban development, onsite investigation is necessary to determine the suitability of areas of this map unit for cropland, pastureland, or woodland uses.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this Minnieville soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Minnieville—3e; Urban land—8s
Virginia soil management group: Minnieville—N; Urban land—none assigned
Hydric soils: Minnieville—no; Urban land—unranked

30C—Myersville loam, 8 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 25 acres

Map Unit Composition

Myersville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 8 inches—strong brown loam
8 to 21 inches—strong brown and yellowish red channery clay loam
21 to 25 inches—yellowish red and yellowish brown channery loam

Substratum:
25 to 58 inches—dark olive brown and reddish yellow parachannery loam

Soft bedrock:
58 to 70 inches—moderately cemented amphibolite bedrock

Hard bedrock:
70 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are less than 40 inches to bedrock; in similar landform positions
- Soils that have more than 35 percent clay in the subsoil and a moderate or high shrink-swell potential; in similar landform positions

Similar components:
- Soils that are similar to the Myersville soil and that are very deep to bedrock or deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Myersville soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Myersville soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Myersville soil and have silt loam surface and subsurface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: D
Hydric soil: No

30D—Myersville loam, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits, shoulders, and backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 25 acres

Map Unit Composition

Myersville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 8 inches—strong brown loam
8 to 21 inches—strong brown and yellowish red channery clay loam
21 to 25 inches—yellowish red and yellowish brown channery loam

Substratum:
25 to 58 inches—dark olive brown and reddish yellow parachannery loam

Soft bedrock:
58 to 70 inches—moderately cemented amphibolite bedrock

Hard bedrock:
70 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are less than 40 inches to bedrock; in similar landform positions
- Soils that have more than 35 percent clay in the subsoil and a moderate or high shrink-swell potential; in similar landform positions

Similar components:
- Soils that are similar to the Myersville soil and that are very deep to bedrock or deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Myersville soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Myersville soil and have darker surface layers; in similar landform positions
- Soils that are similar to Walnut soils and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.

- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: D
Hydric soil: No

31E—Myersville-Walnut complex, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 135 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Myersville and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Walnut and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Myersville

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 8 inches—strong brown loam
8 to 21 inches—strong brown and yellowish red channery clay loam
21 to 25 inches—yellowish red and yellowish brown channery loam

Substratum:
25 to 58 inches—dark olive brown and reddish yellow parachannery loam

Soft bedrock:
58 to 70 inches—moderately cemented amphibolite bedrock

Hard bedrock:
70 to 80 inches—indurated amphibolite bedrock

Walnut

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 12 inches—brown fine sandy loam
12 to 25 inches—yellowish brown fine sandy loam

Soft bedrock:
25 to 41 inches—moderately cemented amphibolite bedrock

Hard bedrock:
41 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:
- Soils that are similar to the Myersville soil and that are very deep to bedrock or deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Myersville soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Walnut soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Myersville soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Walnut soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Myersville—moderate (about 8.0 inches); Walnut—low (about 3.4 inches)
Slowest saturated hydraulic conductivity: Myersville—moderately high (about 0.57 in/hr); Walnut—high (about 1.98 in/hr)
Depth class: Myersville—deep (40 to 60 inches); Walnut—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Myersville—40 to 60 inches to bedrock (paralithic); Walnut—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Myersville—D; Walnut—GG
Hydric soils: No

32F—Myersville-Walnut complex, 45 to 95 percent slopes, very stony, rocky

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 265 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Myersville and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Walnut and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Myersville

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 8 inches—strong brown loam
8 to 21 inches—strong brown and yellowish red channery clay loam
21 to 25 inches—yellowish red and yellowish brown channery loam

Substratum:
25 to 58 inches—dark olive brown and reddish yellow parachannery loam

Soft bedrock:
58 to 70 inches—moderately cemented amphibolite bedrock

Hard bedrock:
70 to 80 inches—indurated amphibolite bedrock

Walnut

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 12 inches—brown fine sandy loam
12 to 25 inches—yellowish brown fine sandy loam

Soft bedrock:
25 to 41 inches—moderately cemented amphibolite bedrock

Hard bedrock:
41 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Similar components:
- Soils that are similar to the Myersville soil and that are very deep to bedrock or deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Myersville soil and have 35 to 60 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Walnut soil and have 18 to 35 percent clay in the subsoil; in similar landform positions

Soil Properties and Qualities

Available water capacity: Myersville—moderate (about 8.0 inches); Walnut—low (about 3.4 inches)

Slowest saturated hydraulic conductivity: Myersville—moderately high (about 0.57 in/hr); Walnut—high (about 1.98 in/hr)
Depth class: Myersville—deep (40 to 60 inches); Walnut—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Myersville—40 to 60 inches to bedrock (paralithic); Walnut—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Myersville—D; Walnut—GG
Hydric soils: No

33E—Peaks-Ashe-Edneyville complex, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 940 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Peaks and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Ashe and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Edneyville and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Peaks

Surface layer:
0 to 5 inches—brown gravelly loam

Subsoil:
5 to 12 inches—dark yellowish brown gravelly loam
12 to 25 inches—dark yellowish brown very cobbly loam

Substratum:
25 to 34 inches—dark yellowish brown very cobbly loam

Hard bedrock:
34 to 80 inches—indurated granitic gneiss bedrock

Ashe

Surface layer:
0 to 1 inch—very dark grayish brown gravelly fine sandy loam

Subsoil:
1 to 6 inches—dark yellowish brown gravelly fine sandy loam
6 to 25 inches—dark yellowish brown cobbly fine sandy loam

Hard bedrock:
25 to 80 inches—indurated granulite bedrock

Edneyville

Surface layer:
0 to 6 inches—brown gravelly loam

Subsoil:
6 to 29 inches—strong brown loam

Substratum:
29 to 61 inches—dark yellowish brown fine sandy loam

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Edneyville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Ashe soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Peaks soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Ashe soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Peaks soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and that are deep to partially weathered bedrock and very deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Peaks—very low (about 2.8 inches); Ashe—low (about 3.0 inches); Edneyville—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Peaks—high (about 5.95 in/hr); Ashe and Edneyville—high (about 1.98 in/hr)
Depth class: Peaks and Ashe—moderately deep (20 to 40 inches); Edneyville—very deep (more than 60 inches)
Depth to root-restrictive feature: Peaks and Ashe—20 to 40 inches to bedrock (lithic); Edneyville—more than 60 inches
Drainage class: Peaks and Ashe—somewhat excessively drained; Edneyville—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Peaks and Ashe—high; Edneyville—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Peaks—JJ; Ashe and Edneyville—GG
Hydric soils: No

33F—Peaks-Ashe-Edneyville complex, 45 to 95 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 400 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Peaks and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Ashe and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Edneyville and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Peaks

Surface layer:
0 to 5 inches—brown gravelly loam

Subsoil:
5 to 12 inches—dark yellowish brown gravelly loam
12 to 25 inches—dark yellowish brown very cobbly loam

Substratum:
25 to 34 inches—dark yellowish brown very cobbly loam

Hard bedrock:
34 to 80 inches—indurated granitic gneiss bedrock

Ashe

Surface layer:
0 to 1 inch—very dark grayish brown gravelly fine sandy loam

Subsoil:
1 to 6 inches—dark yellowish brown gravelly fine sandy loam
6 to 25 inches—dark yellowish brown cobbly fine sandy loam

Hard bedrock:
25 to 80 inches—indurated granulite bedrock

Edneyville

Surface layer:
0 to 6 inches—brown gravelly loam

Subsoil:
6 to 29 inches—strong brown loam

Substratum:
29 to 61 inches—dark yellowish brown fine sandy loam

Minor Components

Dissimilar components:
- Soils that are less than 20 inches to bedrock; in similar landform positions

Similar components:
- Edneytown soils, which are similar to the Edneyville soil and have 18 to 35 percent clay in the subsoil; in similar landform positions
- Soils that are similar to the Ashe soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Peaks soil and deep to unweathered bedrock; in similar landform positions
- Soils that are similar to the Ashe soil and have thick, dark surface layers; in similar landform positions

- Soils that are similar to the Edneyville soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Peaks soil and have thick, dark surface layers; in similar landform positions
- Soils that are similar to the Edneyville soil and that are deep to partially weathered bedrock and very deep to unweathered bedrock; in similar landform positions

Soil Properties and Qualities

Available water capacity: Peaks—very low (about 2.8 inches); Ashe—low (about 3.0 inches); Edneyville—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Peaks—high (about 5.95 in/hr); Ashe and Edneyville—high (about 1.98 in/hr)
Depth class: Peaks and Ashe—moderately deep (20 to 40 inches); Edneyville—very deep (more than 60 inches)
Depth to root-restrictive feature: Peaks and Ashe—20 to 40 inches to bedrock (lithic); Edneyville—more than 60 inches
Drainage class: Peaks and Ashe—somewhat excessively drained; Edneyville—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Peaks and Ashe—high; Edneyville—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Peaks—JJ; Ashe and Edneyville—GG
Hydric soils: No

34F—Siloam-Bluemount complex, 45 to 75 percent slopes, stony, rocky

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 100 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Siloam and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Bluemount and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Siloam

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsoil:
7 to 11 inches—strong brown clay loam
11 to 18 inches—yellowish red clay loam

Soft bedrock:
18 to 22 inches—moderately cemented hornblende gneiss bedrock

Hard bedrock:
22 to 80 inches—indurated hornblende gneiss bedrock

Bluemount

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

Subsoil:
4 to 14 inches—dark yellowish brown silt loam
14 to 24 inches—yellowish brown very cobbly clay loam

Hard bedrock:
24 to 80 inches—indurated amphibolite bedrock

Minor Components

Dissimilar components:
- Soils that are very shallow to bedrock and have a cambic horizon; in similar landform positions

Similar components:
- Soils that are similar to the Siloam soil and shallow to unweathered bedrock; in similar landform positions
- Soils that are similar to the Bluemount soil and have a cambic horizon; in similar landform positions

Soil Properties and Qualities

Available water capacity: Siloam—very low (about 2.1 inches); Bluemount—low (about 4.0 inches)
Slowest saturated hydraulic conductivity: Siloam—moderately high (about 0.20 in/hr); Bluemount—moderately high (about 0.57 in/hr)
Depth class: Siloam—shallow (10 to 20 inches); Bluemount—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Siloam—10 to 20 inches to bedrock (paralithic); Bluemount—20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Siloam—very high; Bluemount—high
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Siloam—residuum weathered from amphibolite; Bluemount—residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A

timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: JJ
Hydric soils: No

35C—Thurmont-Urban land-Wintergreen complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Drainageways (Thurmont) and interfluves (Urban land and Wintergreen) on uplands
Position on the landform: Linear to concave (Thurmont) and linear to convex (Urban land and Wintergreen) footslopes and toeslopes

Elevation: 700 to 1,300 feet
Size of areas: 55 to 110 acres

Map Unit Composition

Note: These two soils and miscellaneous land type occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thurmont and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Urban land: Typically 20 percent, ranging from about 15 to 25 percent
Wintergreen and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Thurmont

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 9 inches—brown loam
9 to 22 inches—yellowish red loam
22 to 50 inches—yellowish red clay loam
50 to 57 inches—yellowish red sandy clay loam

Substratum:
57 to 62 inches—strong brown clay loam with yellowish brown masses of oxidized iron and light gray iron depletions
62 to 80 inches—light gray sandy clay loam with strong brown masses of oxidized iron
80 to 90 inches—white clay with yellowish brown masses of oxidized iron

Urban land

This part of the map unit consist of areas covered by asphalt or concrete, such as roadways or parking lots. Also included are structures, buildings, and other impervious surfaces.

Wintergreen

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Colescreek soils, which are rarely flooded; in low stream terrace positions
- Soils that are frequently to rarely flooded; in flood plain and low stream terrace positions
- Soils that have a water table above a depth of 4 feet; in similar and wetter landform positions

Similar components:
- Soils that are similar to the Wintergreen soil and have less clay in the subsoil in the lower solum; in similar landform positions

- Soils that are similar to the Thurmont soil and have more clay in the subsoil in the lower solum; in similar landform positions

Properties and Qualities of the Thurmont and Wintergreen Soils

Available water capacity: Thurmont—high (about 10.8 inches); Wintergreen—high (about 9.2 inches)
Slowest saturated hydraulic conductivity: Thurmont—moderately high (about 0.20 in/hr); Wintergreen—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Thurmont—about 60 to 79 inches; Wintergreen—more than 6 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Thurmont—low; Wintergreen—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Thurmont—colluvium and alluvium from metamorphic and igneous materials; Wintergreen—alluvium and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland, pastureland, and woodland

- Because of the proximity to urban development, onsite investigation is necessary to determine the suitability of these areas for cropland, pastureland, or woodland uses.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the Thurmont and Wintergreen soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Thurmont and Wintergreen—3e; Urban land—8s
Virginia soil management group: Thurmont—L; Urban land—none assigned; Wintergreen—O
Hydric soils: Thurmont and Wintergreen—no; Urban land—unranked

36B—Thurmont-Wintergreen complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Drainageways (Thurmont) and interfluves (Wintergreen) on uplands; drainageways (Thurmont) and ridges (Wintergreen) on hills
Position on the landform: Linear to concave (Thurmont) and linear to convex (Wintergreen) footslopes and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 35 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thurmont and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Wintergreen and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Thurmont

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 9 inches—brown loam
9 to 22 inches—yellowish red loam
22 to 50 inches—yellowish red clay loam
50 to 57 inches—yellowish red sandy clay loam

Substratum:
57 to 62 inches—strong brown clay loam with yellowish brown masses of oxidized iron and light gray iron depletions
62 to 80 inches—light gray sandy clay loam with strong brown masses of oxidized iron
80 to 90 inches—white clay with yellowish brown masses of oxidized iron

Wintergreen

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Colescreek soils, which are rarely flooded; in low stream terrace positions
- Soils that are frequently to rarely flooded; in flood plain and low stream terrace positions

- Soils that have a water table above a depth of 4 feet; in similar and wetter landform positions

Similar components:
- Soils that are similar to the Wintergreen soil and have less clay in the lower solum; in similar landform positions
- Soils that are similar to the Wintergreen soil and have a thicker surface horizon; in similar landform positions
- Soils that are similar to the Thurmont soil and have more clay in the lower solum; in similar landform positions

Soil Properties and Qualities

Available water capacity: Thurmont—high (about 10.8 inches); Wintergreen—high (about 9.2 inches)
Slowest saturated hydraulic conductivity: Thurmont—moderately high (about 0.20 in/hr); Wintergreen—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Thurmont—about 60 to 79 inches; Wintergreen—more than 6 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Thurmont—low; Wintergreen—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Thurmont—colluvium (primarily) and alluvium from metamorphic and igneous materials; Wintergreen—alluvium (primarily) and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Thurmont—L; Wintergreen—O
Hydric soils: No

36C—Thurmont-Wintergreen complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Drainageways (Thurmont) and interfluves (Wintergreen) on uplands; drainageways (Thurmont) and ridges (Wintergreen) on hills
Position on the landform: Linear to concave (Thurmont) and linear to convex (Wintergreen) footslopes and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 150 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thurmont and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Wintergreen and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Thurmont

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 9 inches—brown loam
9 to 22 inches—yellowish red loam
22 to 50 inches—yellowish red clay loam
50 to 57 inches—yellowish red sandy clay loam

Substratum:
57 to 62 inches—strong brown clay loam with yellowish brown masses of oxidized iron and light gray iron depletions
62 to 80 inches—light gray sandy clay loam with strong brown masses of oxidized iron
80 to 90 inches—white clay with yellowish brown masses of oxidized iron

Wintergreen

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Colescreek soils, which are rarely flooded; in low stream terrace positions
- Soils that are frequently to rarely flooded; in flood plain and low stream terrace positions
- Soils that have a water table above a depth of 4 feet; in similar and wetter landform positions

Similar components:
- Soils that are similar to the Wintergreen soil and have less clay in the lower solum; in similar landform positions
- Soils that are similar to the Thurmont soil and have more clay in the lower solum; in similar landform positions
- Soils that are similar to the Wintergreen soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Thurmont soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Thurmont—high (about 10.8 inches); Wintergreen—high (about 9.2 inches)
Slowest saturated hydraulic conductivity: Thurmont—moderately high (about 0.20 in/hr); Wintergreen—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Thurmont—about 60 to 79 inches; Wintergreen—more than 6 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Thurmont—low; Wintergreen—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Thurmont—colluvium (primarily) and alluvium from metamorphic and igneous materials; Wintergreen—alluvium (primarily) and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Thurmont—L; Wintergreen—O
Hydric soils: No

36D—Thurmont-Wintergreen complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)

Landform: Drainageways (Thurmont) and interfluves (Wintergreen) on uplands; drainageways (Thurmont) and ridges (Wintergreen) on hills
Position on the landform: Linear to concave (Thurmont) and linear to convex (Wintergreen) footslopes and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 40 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thurmont and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Wintergreen and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Thurmont

Surface layer:
0 to 4 inches—dark brown fine sandy loam

Subsoil:
4 to 9 inches—brown loam
9 to 22 inches—yellowish red loam
22 to 50 inches—yellowish red clay loam
50 to 57 inches—yellowish red sandy clay loam

Substratum:
57 to 62 inches—strong brown clay loam with yellowish brown masses of oxidized iron and light gray iron depletions
62 to 80 inches—light gray sandy clay loam with strong brown masses of oxidized iron
80 to 90 inches—white clay with yellowish brown masses of oxidized iron

Wintergreen

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Soils that are frequently to rarely flooded; in flood plain and low stream terrace positions
- Soils that have a water table above a depth of 4 feet; in similar and wetter landform positions

Similar components:
- Soils that are similar to the Wintergreen soil and have less clay in the lower solum; in similar landform positions
- Soils that are similar to the Thurmont soil and have more clay in the lower solum; in similar landform positions

- Soils that are similar to the Wintergreen soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Thurmont soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Thurmont—high (about 10.8 inches); Wintergreen—high (about 9.2 inches)
Slowest saturated hydraulic conductivity: Thurmont—moderately high (about 0.20 in/hr); Wintergreen—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Thurmont—about 60 to 79 inches; Wintergreen—more than 6 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Thurmont—low; Wintergreen—moderate
Runoff class: High
Surface fragments: None
Parent material: Thurmont—colluvium (primarily) and alluvium from metamorphic and igneous materials; Wintergreen—alluvium (primarily) and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of these soils as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Thurmont—L; Wintergreen—O
Hydric soils: No

37E—Trimont-Porters complex, 25 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to concave backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 35 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Trimont and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Porters and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Trimont

Surface layer:
0 to 10 inches—very dark grayish brown loam

Subsoil:
10 to 29 inches—brown loam
29 to 33 inches—dark yellowish brown loam

Substratum:
33 to 80 inches—brown and dark yellowish brown fine sandy loam

Porters

Surface layer:
0 to 10 inches—dark brown loam

Subsoil:
10 to 21 inches—brown fine sandy loam

Substratum:
21 to 43 inches—dark yellowish brown, yellowish brown, and dark brown fine sandy loam

Soft bedrock:
43 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Cullasaja soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches; in less steep colluvial landform positions
- Soils that are less than 40 inches to bedrock; in similar landform positions

Similar components:
- Soils that are similar to the Trimont soil and have thinner dark surface layers; in similar landform positions
- Soils that are similar to the Porters soil and very deep to bedrock; in similar landform positions
- Soils that are similar to the Trimont soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Porters soil and have thicker dark surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Trimont—moderate (about 8.4 inches); Porters—moderate (about 6.0 inches)
Slowest saturated hydraulic conductivity: Trimont—moderately high (about 0.57 in/hr); Porters—high (about 1.98 in/hr)
Depth class: Trimont—very deep (more than 60 inches); Porters—deep (40 to 60 inches)
Depth to root-restrictive feature: Trimont—more than 60 inches; Porters—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Trimont—high; Porters—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist, mica gneiss, and amphibolite

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: FF
Hydric soils: No

37F—Trimont-Porters complex, 45 to 95 percent slopes, very stony

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to concave backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 140 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Trimont and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Porters and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Trimont

Surface layer:
0 to 10 inches—very dark grayish brown loam

Subsoil:
10 to 29 inches—brown loam
29 to 33 inches—dark yellowish brown loam

Substratum:
33 to 80 inches—brown and dark yellowish brown fine sandy loam

Porters

Surface layer:
0 to 10 inches—dark brown loam

Subsoil:
10 to 21 inches—brown fine sandy loam

Substratum:
21 to 43 inches—dark yellowish brown, yellowish brown, and dark brown fine sandy loam

Soft bedrock:
43 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Cullasaja soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches; in less steep colluvial landform positions
- Soils that are less than 40 inches to bedrock; in similar landform positions

Similar components:
- Soils that are similar to the Trimont soil and have thinner dark surface layers; in similar landform positions
- Soils that are similar to the Porters soil and very deep to bedrock; in similar landform positions
- Soils that are similar to the Trimont soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Porters soil and have thicker dark surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Trimont—moderate (about 8.4 inches); Porters—moderate (about 6.0 inches)
Slowest saturated hydraulic conductivity: Trimont—moderately high (about 0.57 in/hr); Porters—high (about 1.98 in/hr)
Depth class: Trimont—very deep (more than 60 inches); Porters—deep (40 to 60 inches)
Depth to root-restrictive feature: Trimont—more than 60 inches; Porters—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Trimont—high; Porters—medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Residuum from mica schist, mica gneiss, and amphibolite

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: FF
Hydric soils: No

38C—Watauga-Brownwood complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 335 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Watauga and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Brownwood and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Watauga

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

Subsoil:
5 to 8 inches—yellowish brown loam
8 to 25 inches—dark yellowish brown clay loam
25 to 30 inches—yellowish brown loam

Substratum:
30 to 80 inches—dark yellowish brown and yellowish brown parachannery sandy loam

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Soils that are shallow to bedrock; in similar landform positions

Similar components:
- Ashe soils, which are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Chandler soils, which are similar to the Watauga soil and have less than 18 percent clay in the subsoil; in similar landform positions
- Edneyville soils, which are similar to the Watauga soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil, have redder hues, and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Watauga soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Watauga—moderate (about 8.1 inches); Brownwood—low (about 4.3 inches)

Slowest saturated hydraulic conductivity: Watauga—moderately high (about 0.57 in/hr); Brownwood—high (about 1.98 in/hr)
Depth class: Watauga—very deep (more than 60 inches); Brownwood—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Watauga—more than 60 inches; Brownwood—20 to 40 inches to bedrock (paralithic)
Drainage class: Watauga—well drained; Brownwood—somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Watauga—medium; Brownwood—high
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Watauga—V; Brownwood—JJ
Hydric soils: No

38D—Watauga-Brownwood complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex summits and shoulders
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 60 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Watauga and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Brownwood and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Watauga

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

Subsoil:
5 to 8 inches—yellowish brown loam
8 to 25 inches—dark yellowish brown clay loam
25 to 30 inches—yellowish brown loam

Substratum:
30 to 80 inches—dark yellowish brown and yellowish brown parachannery sandy loam

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Soils that are shallow to bedrock; in similar landform positions

Similar components:
- Ashe soils, which are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Chandler soils, which are similar to the Watauga soil and have less than 18 percent clay in the subsoil; in similar landform positions
- Edneyville soils, which are similar to the Watauga soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil, have redder hues, and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Watauga soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Watauga—moderate (about 8.1 inches); Brownwood—low (about 4.3 inches)
Slowest saturated hydraulic conductivity: Watauga—moderately high (about 0.57 in/hr); Brownwood—high (about 1.98 in/hr)
Depth class: Watauga—very deep (more than 60 inches); Brownwood—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Watauga—more than 60 inches; Brownwood—20 to 40 inches to bedrock (paralithic)
Drainage class: Watauga—well drained; Brownwood—somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Watauga—V; Brownwood—JJ
Hydric soils: No

38E—Watauga-Brownwood complex, 25 to 45 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B)
Landform: Ridges on mountains
Position on the landform: Linear to convex backslopes
Elevation: 1,300 to 3,500 feet
Size of areas: 3 to 215 acres

Map Unit Composition

Note: These two soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Watauga and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Brownwood and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Watauga

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

Subsoil:
5 to 8 inches—yellowish brown loam
8 to 25 inches—dark yellowish brown clay loam
25 to 30 inches—yellowish brown loam

Substratum:
30 to 80 inches—dark yellowish brown and yellowish brown parachannery sandy loam

Brownwood

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—very dark grayish brown fine sandy loam
10 to 16 inches—dark yellowish brown fine sandy loam
16 to 35 inches—dark yellowish brown cobbly fine sandy loam

Soft bedrock:
35 to 45 inches—moderately cemented mica schist bedrock

Hard bedrock:
45 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Soils that have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Soils that are shallow to bedrock; in similar landform positions

Similar components:
- Ashe soils, which are similar to the Brownwood soil and have less mica throughout; in similar landform positions
- Chandler soils, which are similar to the Watauga soil and have less than 18 percent clay in the subsoil; in similar landform positions
- Edneyville soils, which are similar to the Watauga soil and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil, have redder hues, and have less mica throughout; in similar landform positions
- Soils that are similar to the Watauga soil and deep to partially weathered bedrock; in similar landform positions
- Soils that are similar to the Watauga soil and have darker surface layers; in similar landform positions
- Soils that are similar to the Brownwood soil and have darker surface layers; in similar landform positions

Soil Properties and Qualities

Available water capacity: Watauga—moderate (about 8.1 inches); Brownwood—low (about 4.3 inches)

Slowest saturated hydraulic conductivity: Watauga—moderately high (about 0.57 in/hr); Brownwood—high (about 1.98 in/hr)
Depth class: Watauga—very deep (more than 60 inches); Brownwood—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Watauga—more than 60 inches; Brownwood—20 to 40 inches to bedrock (paralithic)
Drainage class: Watauga—well drained; Brownwood—somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum from mica schist and mica gneiss

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Watauga—V; Brownwood—JJ
Hydric soils: No

39B—Wintergreen loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Ridges on mountains and hills, interfluves on uplands, and high stream terraces in river valleys
Position on the landform: Linear, convex, and concave summits, footslopes, and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 115 acres

Map Unit Composition

Wintergreen and similar soils: Typically 95 percent, ranging from about 90 to 100 percent

Typical Profile

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Wintergreen and other soils that have very stony surface layers, steeper or less steep slopes, and/or severely eroded surface layers; in similar landform positions
- Woolwine soils, which are residual and moderately deep to partially weathered bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Wintergreen soil, are residual, and have less clay in the subsoil in the lower solum and/or in the underlying material; in similar landform positions
- Minnieville soils, which are similar to the Wintergreen soil, are residual, and have less clay in the lower solum and/or in the underlying material; in similar landform positions
- Alluvial and colluvial soils that are similar to the Wintergreen soil and have less clay in the lower solum; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Alluvium and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- This soil is well suited to building sites.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: O
Hydric soil: No

39C—Wintergreen loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)
Landform: Ridges on mountains and hills, interfluves on uplands, and high stream terraces in river valleys
Position on the landform: Linear, convex, and concave summits, shoulders, footslopes, and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 130 acres

Map Unit Composition

Wintergreen and similar soils: Typically 95 percent, ranging from about 90 to 100 percent

Typical Profile

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Wintergreen and other soils that have very stony surface layers, steeper or less steep slopes, and/or severely eroded surface layers; in similar landform positions
- Woolwine soils, which are residual and moderately deep to partially weathered bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Wintergreen soil, are residual, and have less clay in the lower solum and/or in the underlying material; in similar landform positions
- Minnieville soils, which are similar to the Wintergreen soil, are residual, and have less clay in the subsoil in the lower solum and/or in the underlying material; in similar landform positions
- Alluvial and colluvial soils that are similar to the Wintergreen soil and have less clay in the subsoil in the lower solum; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate

Runoff class: Medium
Surface fragments: None
Parent material: Alluvium and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: O
Hydric soil: No

39D—Wintergreen loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Blue Ridge (MLRA 130B) and Southern Piedmont (MLRA 136)

Landform: Ridges on mountains and hills, interfluves on uplands, and high stream terraces in river valleys
Position on the landform: Linear, convex, and concave shoulders, backslopes, footslopes, and toeslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 55 acres

Map Unit Composition

Wintergreen and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 14 inches—yellowish red clay loam
14 to 26 inches—red clay
26 to 37 inches—dark red clay
37 to 50 inches—dark red clay with few brownish yellow mottles
50 to 80 inches—dark red clay with common brownish yellow mottles

Minor Components

Dissimilar components:
- Wintergreen and other soils that have very stony surface layers, steeper or less steep slopes, and/or severely eroded surface layers; in similar landform positions
- Woolwine soils, which are residual and moderately deep to partially weathered bedrock; in similar and steeper landform positions

Similar components:
- Clifford soils, which are similar to the Wintergreen soil, are residual, and have less clay in the subsoil in the lower solum and/or in the underlying material; in similar landform positions
- Minnieville soils, which are similar to the Wintergreen soil, are residual, and have less clay in the subsoil in the lower solum and/or in the underlying material; in similar landform positions
- Alluvial and colluvial soils that are similar to the Wintergreen soil and have less clay in the subsoil in the lower solum; in similar landform positions

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Alluvium and colluvium from metamorphic and igneous materials

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: O
Hydric soil: No

40C—Woolwine-Fairview-Westfield complex, 8 to 15 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)

Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 215 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Woolwine and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Fairview and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Westfield and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Woolwine

Surface layer:
0 to 2 inches—brown loam

Subsoil:
2 to 7 inches—yellowish red clay loam
7 to 13 inches—yellowish red clay
13 to 28 inches—red clay

Soft bedrock:
28 to 42 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
42 to 80 inches—indurated mica gneiss bedrock

Fairview

Surface layer:
0 to 3 inches—dark yellowish brown fine sandy loam
3 to 9 inches—brown fine sandy loam

Subsoil:
9 to 23 inches—red clay
23 to 29 inches—red clay loam

Substratum:
29 to 60 inches—yellowish brown and red fine sandy loam
60 to 74 inches—yellowish brown and dark yellowish brown sandy loam
74 to 80 inches—yellowish brown, dark yellowish brown, and red sandy loam

Westfield

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 9 inches—strong brown loam
9 to 15 inches—yellowish red clay loam
15 to 35 inches—red clay
35 to 40 inches—yellowish red loam

Substratum:
40 to 48 inches—strong brown fine sandy loam

Soft bedrock:
48 to 71 inches—moderately cemented mica schist bedrock

Hard bedrock:
71 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Bluemount soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to unweathered bedrock, and have higher base saturation; in similar landform positions
- Hickoryknob and other soils that have unweathered bedrock above a depth of 40 inches; in similar landform positions
- Soils that have partially weathered bedrock above a depth of 20 inches; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Fairview soil and have a thicker kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Fairview soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Fairview soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Stott Knob soils, which are similar to the Woolwine soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Soils that are similar to the Woolwine soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Fairview soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Westfield soil and either nonstony or very stony; in similar landform positions

Soil Properties and Qualities

Available water capacity: Woolwine—low (about 3.8 inches); Fairview—moderate (about 7.5 inches); Westfield—low (about 5.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Woolwine—moderately deep (20 to 40 inches); Fairview—very deep (more than 60 inches); Westfield—deep (40 to 60 inches)
Depth to root-restrictive feature: Woolwine—20 to 40 inches to bedrock (paralithic); Fairview—more than 60 inches; Westfield—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Woolwine—high; Fairview and Westfield—medium
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

Suitability: Not suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited to pasture

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4s
Virginia soil management group: Woolwine—V; Fairview and Westfield—X
Hydric soils: No

40D—Woolwine-Fairview-Westfield complex, 15 to 25 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear, convex, and concave summits, shoulders, backslopes, and footslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 120 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Woolwine and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Fairview and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Westfield and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Typical Profile

Woolwine

Surface layer:
0 to 2 inches—brown loam

Subsoil:
2 to 7 inches—yellowish red clay loam
7 to 13 inches—yellowish red clay
13 to 28 inches—red clay

Soft bedrock:
28 to 42 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
42 to 80 inches—indurated mica gneiss bedrock

Fairview

Surface layer:
0 to 3 inches—dark yellowish brown fine sandy loam
3 to 9 inches—brown fine sandy loam

Subsoil:
9 to 23 inches—red clay
23 to 29 inches—red clay loam

Substratum:
29 to 60 inches—yellowish brown and red fine sandy loam
60 to 74 inches—yellowish brown and dark yellowish brown sandy loam
74 to 80 inches—yellowish brown, dark yellowish brown, and red sandy loam

Westfield

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 9 inches—strong brown loam

9 to 15 inches—yellowish red clay loam
15 to 35 inches—red clay
35 to 40 inches—yellowish red loam

Substratum:
40 to 48 inches—strong brown fine sandy loam

Soft bedrock:
48 to 71 inches—moderately cemented mica schist bedrock

Hard bedrock:
71 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Hickoryknob and other soils that have unweathered bedrock above a depth of 40 inches; in similar landform positions
- Wintergreen soils, which are colluvial; in similar landform positions
- Soils that have partially weathered bedrock above a depth of 20 inches; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Fairview soil and have a thicker kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Fairview soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Fairview soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Stott Knob soils, which are similar to the Woolwine soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Soils that are similar to the Woolwine soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Fairview soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Westfield soil and either nonstony or very stony; in similar landform positions

Soil Properties and Qualities

Available water capacity: Woolwine—low (about 3.8 inches); Fairview—moderate (about 7.5 inches); Westfield—low (about 5.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Woolwine—moderately deep (20 to 40 inches); Fairview—very deep (more than 60 inches); Westfield—deep (40 to 60 inches)
Depth to root-restrictive feature: Woolwine—20 to 40 inches to bedrock (paralithic); Fairview—more than 60 inches; Westfield—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited to pasture
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: Woolwine—V; Fairview and Westfield—X
Hydric soils: No

40E—Woolwine-Fairview-Westfield complex, 25 to 60 percent slopes, stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves on uplands and ridges on hills
Position on the landform: Linear to convex backslopes
Elevation: 700 to 1,300 feet
Size of areas: 3 to 670 acres

Map Unit Composition

Note: These three soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Woolwine and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Fairview and similar soils: Typically 25 percent, ranging from about 20 to 30 percent
Westfield and similar soils: Typically 10 percent, ranging from about 5 to 15 percent

Typical Profile

Woolwine

Surface layer:
0 to 2 inches—brown loam

Subsoil:
2 to 7 inches—yellowish red clay loam
7 to 13 inches—yellowish red clay
13 to 28 inches—red clay

Soft bedrock:
28 to 42 inches—moderately cemented mica gneiss bedrock

Hard bedrock:
42 to 80 inches—indurated mica gneiss bedrock

Fairview

Surface layer:
0 to 3 inches—dark yellowish brown fine sandy loam
3 to 9 inches—brown fine sandy loam

Subsoil:
9 to 23 inches—red clay
23 to 29 inches—red clay loam

Substratum:
29 to 60 inches—yellowish brown and red fine sandy loam
60 to 74 inches—yellowish brown and dark yellowish brown sandy loam
74 to 80 inches—yellowish brown, dark yellowish brown, and red sandy loam

Westfield

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 9 inches—strong brown loam
9 to 15 inches—yellowish red clay loam

15 to 35 inches—red clay
35 to 40 inches—yellowish red loam

Substratum:
40 to 48 inches—strong brown fine sandy loam

Soft bedrock:
48 to 71 inches—moderately cemented mica schist bedrock

Hard bedrock:
71 to 80 inches—indurated mica schist bedrock

Minor Components

Dissimilar components:
- Hickoryknob and other soils that have unweathered bedrock above a depth of 40 inches; in similar landform positions
- Thurmont soils, which are colluvial; in similar and less steep landform positions
- Soils that have partially weathered bedrock above a depth of 20 inches; in similar landform positions
- Soils that have less than 35 percent clay and more than 35 percent rock fragments in the subsoil and are moderately deep to unweathered bedrock; in similar landform positions

Similar components:
- Clifford soils, which are similar to the Fairview soil and have a thicker kandic horizon; in similar landform positions
- Minnieville soils, which are similar to the Fairview soil and have mafic geology; in similar landform positions
- Rhodhiss soils, which are similar to the Fairview soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Stott Knob soils, which are similar to the Woolwine soil and have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Soils that are similar to the Woolwine soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Fairview soil and either nonstony or very stony; in similar landform positions
- Soils that are similar to the Westfield soil and either nonstony or very stony; in similar landform positions

Soil Properties and Qualities

Available water capacity: Woolwine—low (about 3.8 inches); Fairview—moderate (about 7.5 inches); Westfield—low (about 5.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Woolwine—moderately deep (20 to 40 inches); Fairview—very deep (more than 60 inches); Westfield—deep (40 to 60 inches)
Depth to root-restrictive feature: Woolwine—20 to 40 inches to bedrock (paralithic); Fairview—more than 60 inches; Westfield—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and chestnut oak; poorly suited to yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the slope.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: Woolwine—V; Fairview and Westfield—X
Hydric soils: No

W—Water

Setting

This map unit is in the Southern Blue Ridge and Southern Piedmont Major Land Resource Areas. It includes ponds, lakes, creeks, rivers, and reservoirs.

This map unit is not assigned any interpretive groups.

Use and Management of the Soils

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

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

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

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Interpretive Ratings

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

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Raymond Cocke, District Conservationist, Natural Resources Conservation Service, and John Hambrick, Franklin County Extension Agent, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and Virginia soil management groups are described.

Effective pasture management practices include maintaining a mixture of grasses and legumes, rotating pasture, deferring grazing, controlling undesirable vegetation, and using proper stocking rates.

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.

Corn, wheat, tobacco, barley, alfalfa hay, and soybeans are the dominant crops in the survey area. Small tracts of specialty crops, including vegetables, small fruits, flowers, and nursery plants, are grown in the county. Potatoes, melons, strawberries, sweet corn, pumpkins, tomatoes, and cabbage are grown. Apple and peach orchards, the most common fruit trees, are also present.

Deep and very deep soils that are characterized by good natural drainage and that warm up early in spring are especially well suited to many vegetables and small fruits. These soils include Clifford soils that have slopes of less than 8 percent.

Most of the well drained soils in the survey area are suitable for orchard crops and nursery plants. Soils in low areas where frost is frequent and air drainage is poor generally are poorly suited to early vegetables, small fruits, and orchard crops.

The nearly level or gently sloping soils in the survey area generally are well suited to row crops. Many of the row crops are grown on uplands because the acreage of bottom land and stream terraces is limited. The broad ridges and the more nearly level areas are suitable for grain crops. Very deep, well drained soils, such as Comus and Elsinboro soils, are suited to tobacco and alfalfa. During years of normal rainfall, these soils produce high yields of tobacco. The more sloping Clifford and Minnieville soils are commonly used for hay and pasture.

Some areas that are idle, wooded, or pastured have good potential for use as cropland. Food production could be increased considerably by applying the latest technology to all of the cropland in the survey area. The information in this soil survey can facilitate the application of such technology.

Cropland

Management considerations on cropland in the survey area include controlling erosion, installing a drainage system, improving soil fertility, applying a system of chemical weed control, and improving tilth.

Erosion control.—Water erosion is a major concern on most of the soils used for cropland in the survey area. It is a hazard on soils that have a slope of more than 2 percent. Clifford and Wintergreen soils are examples. As the slope increases, the hazard of erosion and the difficulty in controlling erosion also increase.

Loss of the surface layer through erosion is damaging. Soil productivity is reduced

Figure 6.—A water diversion being constructed on Clifford fine sandy loam, 15 to 25 percent slopes. Moderately steep slopes on farmland often require the use of water-control practices.

as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as Clifford and Minnieville soils, and on soils that have a layer in or below the subsoil that limits the depth of the root zone, such as Strawfield and Hickoryknob soils. Erosion on farmland results in the sedimentation of streams. Controlling erosion minimizes the pollution of water by runoff carrying plant nutrients, soil particles, plant residue, and pesticides. This improves the quality of water for municipal use, for recreation, and for fish and wildlife.

In many sloping areas of clayey soils, preparing a good seedbed is difficult because much or all of the original friable surface layer has been lost through erosion. This degree of erosion is common in areas of Clifford and Minnieville soils.

Erosion-control practices provide a protective surface cover, reduce runoff, and increase the rate of water infiltration. A cropping system that keeps a vegetative cover on the soil for extended periods helps to minimize soil loss and maintain the productive capacity of the soil. In sloping areas, including forage crops of grasses and legumes in the cropping system helps to control erosion. The forage crops also add nitrogen to the soil and improve tilth.

Minimizing tillage and leaving crop residue on the surface increase the rate of water infiltration, reduce runoff, and help to control erosion. These practices can be effective on most of the soils in the survey area. In the more sloping areas that are used for corn or are double cropped with soybeans, no-till farming is effective in controlling erosion. No-till farming is effective on most of the soils in the survey area but is less successful on soils that have a clayey surface layer.

Terraces and diversions shorten the length of slopes and thus minimize erosion caused by runoff (fig. 6). They are most effective on deep, well drained soils that have

Figure 7.—Tobacco and tall grass-clover in a stripcropping rotation on Clifford fine sandy loam, 8 to 15 percent slopes.

regular slopes. These measures are less effective on soils that have irregular slopes because these soils would have bedrock within a depth of 40 inches, would be excessively wet in terrace channels, or would have a clayey subsoil exposed in the terrace channels.

Contour farming and contour stripcropping help to control erosion on many of the soils in the survey area (fig. 7). They are best suited to soils that have smooth, uniform slopes.

Information about erosion-control measures for each kind of soil is available at the local office of the Natural Resources Conservation Service.

Drainage.—Excessive wetness is a management concern on a small percentage of the cropland in the survey area. Some soils, such as the somewhat poorly drained Iotla and Delanco soils, are so wet that production of the crops commonly grown in the survey area is difficult unless a drainage system is installed.

Small areas of wetter soils along drainageways are commonly included in mapping with the moderately well drained Colescreek and Maggodee soils. A drainage system generally is not installed in these included soils. Ditches are used to improve drainage in some areas of these soils.

The design of both surface and subsurface drainage systems varies according to the kind of soil. A combination of surface drains and tile drains is needed in most intensively row-cropped areas of the somewhat poorly drained Iotla and Delanco soils. Drains should be installed at closer intervals in the more slowly permeable soils, such as Jackland soils, than in the more rapidly permeable soils, such as Iotla soils.

Managing drainage in conformance with regulations concerning wetlands may require special permits and extra planning. The local office of the Natural Resources Conservation Service should be contacted for identification of hydric soils and potential wetlands.

Soils along the river bottoms in the survey area are occasionally flooded for brief periods, generally between December and June. Flash flooding as a result of intensive rainfall can occur on the upper reaches of stream bottoms at any time of the year.

Soil fertility.—The soils in the survey area generally are low in natural fertility and are naturally acid. Additions of lime and fertilizer are needed for the production of most kinds of crops.

Liming requirements are a major concern on cropland. The acidity level in the soil affects the availability of many nutrients to plants and the activity of beneficial bacteria. Lime neutralizes exchangeable aluminum in the soil and thus counteracts the adverse effects of high levels of aluminum on many crops. Liming adds calcium (from calcitic lime) or calcium and magnesium (from dolomitic lime) to the soil.

A soil test is a guide to what amount and kind of lime should be used. The desired pH levels may differ, depending on the soil properties and the crop to be grown.

Nitrogen fertilizer is required for most crops. It is generally not required, however, for clover, in some rotations of soybeans, and for alfalfa that is established. A reliable soil test is not available for predicting nitrogen requirements. Appropriate rates of nitrogen application are described in the section “Yields per Acre.”

Soil tests can indicate the need for phosphorus and potassium fertilizer. Phosphorus and potassium tend to build up in the soil.

Chemical weed control.—The use of herbicides for weed control is a common practice on the cropland in the survey area. It decreases the need for tillage and is an integral part of modern farming. Selected soil properties, such as organic matter content and texture of the surface layer, affect the rate of herbicide application. Estimates of both of these properties were determined for the soils in this survey area. Table 17 shows a general range of organic matter content in the surface layer of the soils. The texture(s) of the surface layer are shown in the USDA texture column in table 16.

In some areas the organic matter content projected for the different soils is outside the range shown in the table. The content can be higher in soils that have received large amounts of animal or manmade waste. Soils that have recently been brought into cultivation may have a higher content of organic matter in the surface layer than similar soils that have been cultivated for a long time. Conservation tillage can increase the content of organic matter in the surface layer. A lower content of organic matter is common where the surface layer has been partly or completely removed by erosion or land smoothing. Current soil tests should be used for specific organic matter determinations.

Tilth.—Soil tilth is an important factor in the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are granular and porous.

Some of the soils in the survey area that are used for crops have a light-colored surface layer of silt loam and a low content of organic matter. Generally, the structure of these soils is weak. Periods of heavy rainfall result in the formation of a crust on the surface. The crust is hard when dry and nearly impervious to water. It reduces the rate of water infiltration and increases the runoff rate. Regular additions of crop residue, manure, and other organic material can improve soil structure and prevent the formation of a crust.

Because of crusting during winter and spring, fall plowing is generally not recommended for soils that have a light-colored surface layer of silt loam. Many of the soils that are plowed in fall are almost as dense and hard at planting time as they were before they were plowed. More than 90 percent of the cropland in the survey area consists of sloping soils that are subject to erosion if they are plowed in fall.

Stones and boulders are common in many of the colluvial soils in the survey area. In some places the rock fragments prevent tillage. In other places they can be removed.

Pasture and Hayland

In 1997, the survey area had 45,508 animals in the “all cows” category and 10,568 dairy animals (Virginia Agricultural Statistics Service, 1998). Most of the pasture and hayland supports a mixture of grasses and legumes. Most of the hay is grown in rotation with pasture. The harvested hay commonly is rolled into large, round bales or is used as grass silage.

Selection of forage species.—A successful livestock enterprise depends on a forage program that provides large quantities of good-quality feed. In most areas of hayland and pasture in the survey area, renovation, brush control, and measures that prevent overgrazing are needed.

The soils in the survey area vary widely in their ability to produce grasses and legumes because of differences in such properties as depth to bedrock or to other limiting layers, internal drainage, and available water capacity. The forage species selected for planting should be appropriate for the soil.

The nearly level and gently sloping, deep and very deep, well drained soils should be planted to the highest producing crops, such as corn silage, alfalfa, or a mixture of alfalfa and orchardgrass or alfalfa and timothy. Sod-forming grasses, such as tall fescue and orchardgrass, minimize erosion in the steeper areas. Alfalfa should be seeded with cool-season grasses in areas where the soil is at least 2 feet deep and is well drained. The more poorly drained soils and the soils that are less than 2 feet deep are suited to clover-grass mixtures or to pure stands of clover or grasses. Legumes can be established through renovation in areas that support sod-forming grasses.

The intended use should be considered when forage species are selected. Selected species should provide maximum quality and versatility in the forage program. Legumes generally produce higher quality feed than grasses. They should be grown to the maximum extent possible. The taller legumes, such as alfalfa and red clover, are more versatile than legumes that are used primarily for grazing, such as white clover. Orchardgrass, timothy, and tall fescue are best suited to use as hay and silage.

Tall fescue is an important cool-season grass. It is suited to a wide range of soil conditions and is grown for both pasture and hay. The growth that occurs from August through November commonly accumulates in the field and is used for grazing in late fall and in winter. For maximum production, nitrogen fertilizer should be applied during the period when the grass is accumulating. The rate of application should be based on the desired level of production.

Warm-season grasses that are planted during the period from early April through late May help to supplement cool-season grasses, such as tall fescue. They grow well during warm periods, especially from mid-June through September, when the growth of cool-season grasses is slow. Examples of warm-season grasses are switchgrass, big bluestem, indiangrass, and Caucasian bluestem.

Maintenance of pasture and hayland.—Renovation can increase forage yields in areas that have a good stand of grass. It includes partially destroying the sod, applying lime and fertilizer, and seeding desirable forage species. Adding legumes to the stand of grass provides high-quality feed. Legumes increase summer production and transfer nitrogen from the air into the soil. Under growing conditions, alfalfa can fix 200 to 300 pounds of nitrogen per acre per year, red clover can fix 100 to 200 pounds, and ladino clover can fix 100 to 150 pounds. An acre of annual forage legumes, such as vetch, can fix 75 to 100 pounds of nitrogen per year.

Additional information about managing pasture and hayland can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

The average yields per acre shown in table 6, parts I and II, are those that can be expected of the principal crops in the survey area under a high level of management. 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 and the Virginia soil management group of map units in the survey area also are shown in the table.

The yields are based on VALUES (Virginia Agronomic Land Use Evaluation System) (Virginia Polytechnic Institute and State University, 1994). 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.

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments such as lime. Applications of nitrogen and phosphorus from organic and inorganic forms should be done according to approved nutrient management practices and regulations.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

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 yields 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 two levels—capability class and subclass (USDA-SCS, 1961).

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.

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system that ranks soils for management and productivity (Virginia Polytechnic Institute and State University, 1994). VALUES places each soil series in Virginia into one of 43 management groups. The format of the management groups, A through QQ, include the following soil characteristics—regional occurrence; parent material; landscape position or influence; solum thickness; dominant profile features, such as texture; available water capacity for plants; and internal soil drainage. Yields that are both economically and environmentally feasible were assigned to each management group, based on yields of field trial crop data and research. The following paragraphs describe the soil management groups in Franklin County.

Group A. The soils of this group formed in alluvium on gently sloping landscapes of flood plains or stream terraces. They are deep, are medium textured soils throughout, have a high water-supplying capacity, and are well drained.

Group B. The soils of this group formed in alluvium associated with stream terraces. They are deep, have loamy textures throughout, have a high water-supplying capacity, and are well drained or moderately well drained.

Group D. The soils of this group formed in a variety of residual parent materials on upland landscapes. They occur in the Northern Piedmont region. They are moderately deep, have fine-loamy textures, have a moderately high water-supplying capacity, and are well drained or moderately well drained.

Group G. The soils of this group formed in locally transported, medium textured sediments of either colluvial or alluvial origin that overlay a wide range of residual materials. Occurring in the Piedmont region and westward, they are located in landscape positions ranging from footslopes and toeslopes to the heads of drainageways, depressions, and narrow upland drainageways. They are deep and have silty to loamy upper subsoils underlain with clayey to stony materials. They have a moderately high water-supplying capacity and are moderately well drained or somewhat poorly drained.

Group L. The soils of this group formed in old, transported deposits of alluvium or colluvium. They are common on stream terraces, footslopes, and older, elevated, upland landscapes that were once stream terraces. They are common to the Piedmont and mountainous regions. They are deep, have medium textured surface layers, have more clayey subsurface layers, and commonly have gravel and rounded stones. They have a moderate to high water-supplying capacity and usually are well drained.

Group N. The soils of this group formed in residuum ranging from weathered mafic rocks to Triassic sediments located on dissected uplands in the Piedmont region. They are deep or moderately deep, have medium textured surface layers and reddish brown clayey subsurface layers, have a moderate water-supplying capacity, and are well drained.

Group O. The soils of this group formed in transported materials ranging from mountain colluvium to old alluvium on dissected uplands of the Piedmont and mountainous regions and as old elevated river terrace deposits. They range from deep to shallow, have very dark red clayey subsurface horizons, and may have a significant amount of coarse fragments in some areas. They have a moderate water-supplying capacity and are well drained.

Group U. The soils of this group formed in a variety of residual parent materials ranging from Triassic sediments to sandstone, shale, and limestone to colluvium from these materials. They include soils in the mountainous and Piedmont regions that are moderately deep to shallow. They commonly have fine-loamy subsurface layers and commonly have coarse fragments making up as much as one-third the soil volume. As a result, they have a moderate or moderately low water-supplying capacity. They are well drained or moderately well drained.

Group V. The soils of this group formed in saprolite derived from a variety of parent materials ranging from slates to granites, gneisses, schists, and more basic granitic rocks. They occur on upland landscapes in the Piedmont and are moderately deep. They have clayey subsurface horizons, have a moderate water-supplying capacity, and are well drained.

Group X. The soils of this group formed in a variety of residual materials, including slates, granites, gneisses, and schists, located on upland landscapes in the Piedmont region. They are moderately deep, have clayey subsurface horizons, have coarse fragments or gravel in some areas, have a moderate water-supplying capacity, and are well drained or moderately well drained.

Group Y. The soils of this group formed in residuum of weathered limestones, shales, or other carbonate-influenced rocks on upland landscapes in both the mountainous and Piedmont regions. They range from shallow to moderately deep, have clayey subsurface horizons, have coarse fragments in some areas, and have a moderate to low water-supplying capacity where shallow to bedrock. They are mostly well drained.

Group CC. The soils of this group formed in a range of parent materials that include alluvium, colluvium, and loamy saprolite on a variety of landscapes ranging from uplands, stream terraces, and colluvial positions to bottomlands. The soils in this diverse group occur across the Piedmont and mountainous regions. They commonly have moderately deep sola, clayey-skeletal to coarse-loamy subsurface horizons (some with as much as 70 percent coarse fragments), and a moderately low water-supplying capacity. They are well drained.

Group FF. The soils of this group formed in residual parent materials ranging from sandstone, shales, and slates to loamy granitic saprolite and mountain colluvium. They are on steeply dissected uplands and mountain side slopes and extend across the Piedmont to the mountains. They are moderately shallow soils and, in most areas, have loamy-skeletal subsurface horizons that may contain 80 percent, or more, coarse fragments. As a result, the water-supplying capacity is low or very low. The soils are well drained or moderately well drained.

Group GG. The soils of this group formed in cherty limestone or other residuum in ridgetop and side slope positions in the Piedmont and mountainous regions. They are deep or moderately deep, have loamy-skeletal subsurface horizons (usually with greater that 60 percent coarse fragments), have a low water-supplying capacity, and are well drained.

Group JJ. The soils of this group formed in a wide variety of residual parent materials ranging from sandstones, shales, and limestones to Triassic materials, phillites, and granite saprolite or schists. They are in either the Piedmont or mountainous region. They are shallow, dominantly have loamy-skeletal textures throughout, and range from 30 to 70 percent coarse fragments. They have a very low water-supplying capacity and are well drained.

Group KK. The soils of this group formed in a variety of residual materials, including Triassic sediments, residuum from basic rocks, and other clayey sediments. They are located dominantly in the Piedmont region. They are moderately deep, have clayey textured subsurface horizons, and commonly have large components of high shrink-swell clays. They have a moderate water-supplying capacity and range from moderately well drained to somewhat poorly drained.

The management groups for the map units in the survey area are given in the section “Detailed Soil Map Units” and in table 6.

Orchards

In the survey area, orchards produce Golden Delicious, Red Delicious, Granny Smith, Rome, Jonathan, and other varieties of apples. Peach orchards are also common. The fruit is grown for the fresh market and the juice market. All varieties require intensive management and high maintenance. In 1997, the county had 221 acres of orchards (Virginia Agricultural Statistics Service, 1998).

Site selection.—A uniform and sloping topography allows for good air drainage. Sites that are gullied or have ravines or abrupt changes in slope should not be selected. Trees planted in soils that are wet, subject to flooding, affected by seeps, or in natural drainageways produce low yields and are more susceptible to disease. Orchards should be established near an adequate supply of water, which can be used for spraying or irrigation. Good sites are in areas of very deep, well drained soils. In the survey area, Clifford and Wintergreen soils are used for apple and peach orchards.

Layout and erosion control.—The layout of an orchard should include outlets for water flowing into the orchard from higher areas and for water flowing out of the orchard. Field borders and diversions that empty into grassed waterways dispose of water without causing erosion. Sod should be used between rows of trees and on all roads and erosion-control structures. It should be established as soon as possible after construction. Rows of trees should be planted on the contour and as nearly parallel to each other as possible. This arrangement helps to control erosion and allows easy access. Access roads are very important. Short or dead-end roads, which make access with equipment difficult, and roads with sharp turns or grades above 10 percent should not be constructed. Wet areas or natural drainageways should be avoided as sites for roads. If these areas are unavoidable, water bars and culverts should be installed.

Lime, fertilizer, and herbicides.—The soils in the survey area have insufficient natural fertility to sustain orchards. They are too acid, are typically low in nitrogen and phosphorus, and are high in potassium. Application rates for lime and fertilizer should be determined by tissue analysis of the trees and by soil analysis. Lime and fertilizer should be applied to access roads and erosion-control structures to maintain the sod.

Ornamental Crops

The ornamental crops grown in the survey area include Christmas trees, mountain laurel, rhododendron, hemlock, boxwood, and other species of native trees, shrubs, and herbaceous plants used in landscaping. Also grown are hybrid trees and shrubs, including holly, juniper, and yew. Important species of Christmas trees are Fraser fir, white pine, white spruce, blue spruce, and Norway spruce.

Soil-plant-landscape relationships.—Native and hybrid ornamental crops grow well on well drained, loamy soils. They should be protected from northwest winds in winter, especially at high elevations. The content of clay in the soils should be 15 to 30 percent for optimum ball and burlap harvesting.

Fraser fir is best adapted to cool areas at high elevations, generally above 3,000 feet. It grows best on well drained, sandy to loamy soils. It grows marginally below an elevation of 2,500 feet on south- or west-facing slopes or on soils that have a subsoil that has more than 35 percent clay. These areas generally are eliminated as potential sites for the production of fir. Fraser fir does not grow well on soils that have slow water movement or a high water table because these conditions encourage phytophthora root disease.

White pine, white spruce, blue spruce, and Norway spruce are adapted to the dryer, hotter, clayey soils. Clifford and Minnieville soils are used for these species.

Site selection.—Soils that have a clay content of less than 15 percent should not be used for ornamental species that are ball and burlap harvested. These soils do not cling together and thus ball poorly. Soils that have a clay content of more than 30 percent can be dug only within a narrow range of water content. Soils that are wet, are in natural drainageways, or have a clay content of more than 30 percent also should not be used for ornamental species. They hold excess moisture around roots, which results in poor growth and encourages phytophthora root disease. Soils that have slopes of more than 30 percent should not be used because the slope limits the use of equipment for mowing, spraying, and harvesting. Steep and very steep slopes increase labor costs and the amount of time needed for harvesting and detrimentally affect plant shape. Sites should be selected in areas that have an adequate supply of clear water that can be used for spraying or irrigation. Disturbing as little of the planting area as possible helps to prevent excessive erosion. Areas between plants and areas between rows should remain in permanent sod. Planting in a grid arrangement allows easy access to equipment used for mowing and spraying.

Conifer line-out beds require soils that have less than 10 percent clay in the upper 12 inches. Soils that are more than 10 percent clay hold seedling roots so tightly that tearing and breaking of roots result during harvesting. Root damage reduces the vigor of the seedlings when they are transplanted to a field. Soils that have a sandy surface layer are suited to line-out beds. Soils that have a dark, rich organic layer, such as Cullasaja and Tuckasegee soils, are also suited to line-out beds.

Access roads should be carefully planned and constructed. If possible, they should not be constructed in natural drainageways, in wet areas, or where, because of the slope, the grade would be more than 10 percent. They should be surfaced or seeded with perennial vegetation as soon as possible after construction. Regular applications of lime and fertilizer help to maintain the sod. Cut and fill slopes should be stabilized with vegetation as soon as possible.

Lime, fertilizer, and herbicides.—Because of insufficient natural fertility, the soils in the survey area cannot quickly produce ornamentals. They are typically low in nitrogen and phosphorus and high in potassium. Some soils are too acid for ornamental crops, especially for hybrid ornamentals and some tree species. Application rates for lime and fertilizer should be determined by soil tests and by tissue analysis of the crop.

Soil Quality

Soil quality is the fitness of a specific kind of soil to function within its surroundings, support plant and animal production, maintain or enhance water and air quality, and support human health and habitation. Many people define soil quality as soil health.

The quality of a soil can be viewed in two ways. The first view recognizes that, depending on the environmental function of interest, some soils are simply better suited than others to effectively perform that function. For example, soils that are shallow to bedrock have inherently poor quality for supporting deep-rooted trees or for use as sites for dwellings with basements. Sandy soils that have a high content of gravel may have inherently poor quality for filtering household wastes applied through an onsite septic system. Alternatively, these same soils may have good quality for use in the construction of local roads and streets. This view of soil quality is useful for comparing the abilities of one soil to those of another and is often used to evaluate the worth or suitability of soils for specific uses.

The second view of soil quality relates to the dynamic nature of soils, which is influenced by human use and management. A given soil may have a certain level of quality for fulfilling a given environmental function, but it may be functioning at a level below its inherent capability because of past disturbance or current management systems. For example, a farming system that does not protect the surface layer from erosion results in the loss of clay and other finer sized soil mineral particles, organic matter, nutrients, and other beneficial properties. In most cases, the eroded soil functions below its original potential for production and its condition or health is considered impaired or lower in quality. Likewise, a soil in a wetland, if drained or covered with sediment from nearby uplands, may not serve as effectively as a filter as it would in its natural condition.

Functions of Soil

Soil is a living, dynamic resource. It has biological, chemical, and physical properties which are continually changing. It performs several important functions within the natural environment.

Soil provides a physical matrix, chemical environment, and biological setting for the exchange of water, air, nutrients, and heat necessary for living organisms.

Soil controls the movement of rainfall or irrigation water in the environment. It partitions the water into several components. Some of the applied water runs off of the soil and enters waterways directly. The remaining water infiltrates the soil and is either stored in the soil and used for plant growth or percolates through the soil and into the ground water. This regulation of water flow affects the movement of soluble materials, such as nitrate nitrogen and pesticides, through the environment.

Soil regulates biological activity and molecular exchanges among solid, liquid, and gaseous phases and thus affects nutrient cycling, plant growth, and the decomposition of organic materials.

Acting as a filter, soil protects the quality of water, air, and other resources. Soils in

Figure 8.—Earth Team volunteers planting live stakes of willow in an area of Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes. Streambank stabilization efforts such as these enhance water quality by reducing sediment and nutrient runoff and improve wildlife habitat by creating migratory zones.

wetlands are particularly important as natural filters of chemicals applied to farmlands, golf courses, lawns, and other managed areas.

Soil provides mechanical support for living organisms and their structures. People and wildlife depend on this function.

Importance of Soil Quality to Landowners

Soil quality has a direct effect on plant growth and the productivity of cropland, pasture, hayland, and woodland. It also affects the movement of water over, into, and through the soil. Maintaining or enhancing the quality of the soil can help to reduce the onsite and offsite effects of soil erosion. It can help to increase yields and reduce the offsite movement of nitrates and other chemicals to adjacent water bodies and to ground water by ensuring the efficient use of nutrients by the crop and soil organisms within the soil biological system. Maintaining a high level of soil quality ensures that the resource is sustained for the future.

The inherent quality of many soils has been degraded through past management practices. However, modern improved management practices, such as no-till cropping systems, tree planting (fig. 8), and riparian buffers, can improve soil quality and enhance the environmental functioning of the soil. Generally, management practices that maintain a vegetative cover on the soil, return the maximum practical amount of crop residue to the soil, and minimize soil-disturbing activities, such as tillage, result in higher levels of soil quality.

Concerns Related to Soil Quality

Examples of the degradation of soil quality include:

- Loss of soil material through erosion
- Deposition of sediment by wind or floodwaters
- Compaction of soil layers near the surface
- Loss of granular soil structure at the surface
- Reduction of infiltration rates
- Formation of a soil crust
- Nutrient loss or imbalance
- Pesticide carryover
- Buildup of salts
- Unfavorable change in pH range
- Loss of organic matter
- Reduced biological activity and poor breakdown of residue

Soil-Quality Indicators

The quality of a given soil can be improved over time if it is managed properly. Monitoring key indicators of soil quality over time can ensure that the quality of the soil is maintained or enhanced.

Soil-quality indicators are physical, chemical, and biological properties, processes, and characteristics that can be measured as changes in the soil are monitored. Indicators can be categorized into four general groups: visual, physical, chemical, and biological.

Visual indicators may be obtained from direct observation or photographic interpretation. Exposure of the subsoil, change in soil color, ephemeral gullies, ponding, runoff, plant response, weed species, surface crusting, blowing soil, and soil deposition are a few examples. Visual evidence can be a clear indication that soil quality is changing in either a negative or a positive way.

Physical indicators are usually obtained by observation or laboratory analysis. They include topsoil thickness, bulk density, porosity, aggregate stability, texture, crusting, and compaction. These indicators primarily reflect factors affecting root growth, biological activity of soil, seedling emergence, and infiltration or movement of water and air within the soil.

Chemical indicators generally require sampling and laboratory analysis. They include measurements of pH, salinity, organic matter, phosphorus concentrations, cation-exchange capacity, nutrient cycling, concentrations of elements that may be potential contaminants, and concentrations of elements that are needed for plant growth and development. The chemical condition of soil affects soil-plant relationships, water quality, buffering capacities, availability of nutrients and water to plants and other organisms, mobility of contaminants, and some physical conditions, such as the tendency for a crust to form.

Biological indicators may be obtained by observation and measurement. They include measurements of micro- and macro-organisms, their activity, and their by-products. Populations of bacteria, fungi, earthworms, nematodes, and mites have been suggested as indicators in some parts of the country. Respiration rate can be used to detect microbial decomposition of organic matter in the soil. Ergosterol, a fungal by-product, has been used to measure the activity of organisms that play an important role in the formation and stability of soil aggregates. Measurements of decomposition rates of plant residue in bags or measurements of weed seed numbers or pathogen populations can also be used as biological indicators of soil quality.

Selecting Indicators

Soil quality can be monitored through the observation or measurement of key soil-quality indicators. A monitoring program should include several indicators, depending on the original condition of the soil and the desired goals for soil quality. In planning monitoring strategies, one should consider the time of year that sites are monitored, the stage of crop growth, and the location within the field where observations are made.

The selection of indicators should be based on:

- The land use
- The relationship between an indicator and the soil function being assessed
- The ease and reliability of the measurement
- The variation between sampling times and the variation across the sampling area
- The sensitivity of the measurement to changes in soil management
- The extent to which the soil indicator can be subject to routine monitoring and sampling
- The skills required for use and interpretation of the indicator

The monitoring system should be used primarily to detect trend changes that are measurable over a 1- to 10-year period. By monitoring trends over time, one can determine if the soil is improving, degrading, or remaining stable under the current management system. If the detected changes indicate that degradation is rapidly occurring, land managers can correct problems before undesired and possibly irreversible loss of soil quality occurs.

The local office of the Natural Resources Conservation Service, the Soil and Water Conservation District, or the Cooperative Extension Service should be contacted for assistance in developing a plan for monitoring soil quality over time.

Prime Farmland

Table 7 lists the map units in the survey area that are considered prime farmland. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of prime farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation’s food supply.

Prime farmland 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 quality, 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. The water supply is dependable and of adequate quality. Prime farmland 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 36,981 acres in the survey area, or just over 8 percent of the total acreage, meets the requirement for prime farmland. This land is mainly on broad, upland ridgetops and along stream terraces and flood plains of creeks and rivers.

A recent trend in land use in some areas 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.

For some soils identified in the table as prime farmland, 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.

Hydric Soils

This section lists the map units in the survey area that may include hydric soils. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present. No map units in Franklin County meet the definition of hydric soils.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

10B	Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded
23A	Iotla-Maggodee-Colescreek complex, 0 to 4 percent slopes
24B	Jackland-Mirerock-Redbrush complex, 2 to 8 percent slopes
24C	Jackland-Mirerock-Redbrush complex, 8 to 15 percent slopes

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 8, parts I, II, and III, show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (K_{sat}), slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Saturated hydraulic conductivity (K_{sat}) and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (K_{sat}), 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 erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 9, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

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

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

Forestland Management

In table 10, parts I through V, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Proper planning for timber harvesting is essential to minimize the potential impact to soil and water quality. A harvest plan should include logging roads, log decks, streamside management zones, stream crossings, skid trails, schedule of activities, and best management practices (BMPs) for each activity. Forests should be managed to increase economic and environmental benefits. A forest stewardship plan should be developed to guide management and utilization of the woodlands.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low,* *moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Silviculture of Franklin County

Albert Coffey, Forester, Natural Resources Conservation Service, helped prepare this section.

Owners of woodland in Franklin County have many objectives. These objectives include producing timber; conserving wildlife, soil, and water; preserving esthetic values; and providing opportunities for recreational activities, such as commercial hunting. Public demand for clean water and recreational areas creates pressures and opportunities for owners of woodland.

The predominant forest types identified by the U.S. Department of Agriculture, Forest Service in Franklin County are as described in the following paragraphs (Johnson, 1992).

Oak-hickory. This forest type covers 230,730 acres. It is predominantly upland oaks with some hickory species. Commonly included trees are yellow-poplar, red maple, sweetgum, and American beech.

Loblolly-shortleaf. This forest type covers 31,045 acres. It is predominantly shortleaf pine or Virginia pine in native stands. Loblolly pine, although not native to Franklin County, is included in this type because it is commonly planted as a commercial species in plantations. Commonly included trees are oak species, hickory species, yellow-poplar, and sweetgum.

Oak-pine. This forest type covers 15,441 acres. It is predominantly hardwoods, usually upland oaks. Pine species, such as Virginia pine and shortleaf pine, make up 25 to 50 percent of the stand. Commonly included trees are sweetgum, hickory species, yellow-poplar, red maple, and American beech.

White pine-hemlock. This forest type covers 2,748 acres. It is predominantly eastern white pine. Commonly included trees are yellow-poplar, sweet birch, red maple, Virginia pine, and oak species.

The landowner interested in timber production is faced with the challenge of producing greater yields from smaller areas. Meeting this challenge requires intensive management and silvicultural practices. Many modern silvicultural techniques resemble those long practiced in agriculture. They include establishing, weeding, and thinning a desirable young stand; propagating the more productive species and genetic varieties; providing short rotations and complete fiber utilization; controlling insects, diseases, and weeds; and improving tree growth by applications of fertilizer and the installation of a drainage system. Even though timber crops require decades to grow, the goal of intensive management is similar to the goal of intensive agriculture. That is, to produce the greatest yield of the most valuable crop as quickly as possible.

Privately owned forests cover 279,964 acres, or 65 percent, of the land area of Franklin County (Johnson, 1992). Commercial forest is land that is producing or is capable of producing crops of industrial wood and that has not been withdrawn from timber production. Due to their dominance in natural stands, oak species and yellow-poplar are the most commonly harvested timber species of Franklin County. Other common commercial species include Virginia pine, shortleaf pine, loblolly pine, eastern white pine, and red maple. Loblolly pine is becoming more important commercially in the Piedmont sections of the county, and many timberland owners are reforesting stands with improved varieties of loblolly pine. In the mountain portions of Franklin County, yellow-poplar is the most important timber species.

One of the first steps in planning intensive woodland management is to determine the potential productivity of the soil for several alternative tree species. The most productive and valued trees are then selected for each soil type. Site and yield information enables a forest manager to estimate future wood supplies. These estimates are the basis of realistic decisions concerning expenses and profits associated with intensive woodland management, land acquisition, or industrial investments.

The potential productivity of woodland depends on soil properties, physiography, climate, and the effects of past management. Specific soil properties and site characteristics, including soil depth, texture, structure, and depth to the water table, affect forest productivity primarily by influencing available water capacity, aeration, and root development. The net effects of the interaction of these soil properties and site characteristics determine the potential site productivity.

Availability of water and nutrients and landscape position largely determine which tree species grow on a particular soil. For example, basswood and yellow-poplar are common on soils that have the highest fertility levels and a high moisture content. American beech is common on soils that have a high moisture content and intermediate fertility levels. Chestnut oak, scarlet oak, and Virginia pine are common on soils that have low fertility levels and a low moisture content.

Soil serves as a reservoir for moisture, provides an anchor for roots, and supplies most of the available nutrients. These three qualities are directly or indirectly affected by organic matter content, reaction, fertility, drainage, texture, structure, depth, and landscape position. Elevation and aspect are of particular importance in mountainous areas.

The ability of a soil to serve as a reservoir for moisture, as measured by the available water capacity, is primarily influenced by texture, organic matter content, rooting depth, content of rock fragments, and slope position. Because of the fairly even and abundant summer rainfall in the survey area, available water capacity is a limitation affecting tree growth only on shallow soils, such as Siloam soils, and on soils with large amounts of rock fragments, such as Peaks soils. Upland soils that usually have sufficient moisture, such as Hickoryknob soils, may be limited by available water when occurring on convex summits, shoulders, and nose slopes because of high surface runoff from these sites.

In the survey area all of the soils, except for the shallowest, provide an adequate anchor for tree roots. The susceptibility to windthrow, or the uprooting of trees by the wind, is not a major management concern on most soils. However, some exposed ridges are windswept and susceptible to wind and ice damage. This is a concern on ridges on the Blue Ridge escarpment near Franklin County's western border.

The available supply of nutrients for tree growth is affected by several soil properties. Mineralization of humus releases nitrogen and other nutrients to plants. Calcium, magnesium, and potassium are held within the humus. Very small amounts of these nutrients are made available by the weathering of clay and silt particles. Most of the upland soils have been leached and contain only small amounts of nutrients below the surface layer. Soils that have a thin surface layer must be carefully managed during site preparation so that the surface layer is not removed or degraded. Examples are Clifford and Woolwine soils. Most of the upland soils in the Piedmont portion of Franklin County have thin surface layers.

The living plant community is part of the nutrient reservoir. The decomposition of leaves, stems, and other organic material recycles the nutrients that have accumulated in the forest ecosystem. Fire, excessive trampling by livestock, erosion, and use of heavy machinery for land clearing or logging can result in the loss of these nutrients. Woodland management should include prevention of wildfires and protection from overgrazing.

Physiographic site factors are also important. Aspect influences the amount of available sunlight, air drainage, soil temperature, and evaporation. In the mountainous areas of Franklin County, where the influence of aspect is especially strong, sites on south-facing slopes are warmer and drier than those on north-facing slopes. North- and east-facing slopes, or cool slopes, are better suited to tree growth than south- and west-facing slopes, or warm slopes. The average height that trees attain in 50 years can be as much as 10 feet higher on cool slopes than on warm slopes. Most of the soils on cool slopes have an A horizon that is thicker and has more humus and clay than that of the soils on warm slopes.

Examples of soils on cool slopes are Trimont and Porters soils. The organic matter in these soils enables a higher water-holding capacity and a higher capacity to retain nutrients than soils on warm slopes. The water availability in these soils is also enhanced by shading from direct sunlight, which lowers evapotranspiration. The mean annual soil temperature is 1 to 4 degrees F lower on the cool slopes. The difference in temperature is most prevalent during the dormant season. Because less sunlight falls on the canopy in areas of the cool slopes, the air temperature in the canopy and the transpiration rate are lower and less water is needed for plant growth.

Landscape position is another important physiographic factor in the mountainous parts of Franklin County. Soils on the lower slopes may receive additional water because of internal waterflow. In the mountains, much of the soil water movement during periods of saturation occurs as lateral flow within the subsoil. Soils on lower slopes also receive organic matter and nutrients from higher slope positions. For these reasons, these soils have high site potential for tree growth. Examples of these soils are Cullasaja and Tuckasegee.

Soil and air temperatures are lower at the higher elevations. The temperature decreases by about 3.5 degrees F per 1,000 feet of increase in elevation (Muller and Overlander, 1984). The cooler temperatures at the higher elevations result in soils with thicker A horizons and more surface humus.

The amount of rainfall and the length of the growing season influence site productivity. Rainfall is relatively homogeneous throughout Franklin County, while the growing season is somewhat shorter at the higher elevations.

The Virginia Department of Forestry, the Natural Resources Conservation Service, and the Virginia Cooperative Extension Service can assist woodland owners and managers in determining specific needs in managing woodlands.

Recreational Development

In table 11, parts I and II, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (K_{sat}), and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (K_{sat}), and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (K_{sat}), and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

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

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section.

Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, saturated hydraulic conductivity (K_{sat}), corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 12, parts I and II, show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 13, parts I and II, show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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 72 inches or between a depth of 24 inches and a restrictive layer 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. Saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (K_{sat}) 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 K_{sat} rate of more than 14 micrometers per second are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include saturated hydraulic conductivity (K_{sat}), depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, saturated hydraulic conductivity (K_{sat}), depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If the downward movement of water through the soil profile is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 14, parts I and II, give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14, part I, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 14, part II, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

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

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

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the saturated hydraulic conductivity (K_{sat}) of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

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

Soil properties are 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 particle-size distribution, plasticity, and compaction characteristics.

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

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

Engineering Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional 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.

Physical Soil Properties

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

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

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

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

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

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (K_{sat}), 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 linear extensibility, 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 (K_{sat}) refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (K_{sat}) is considered in the design of soil drainage systems and septic tank absorption fields.

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

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In 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 saturated hydraulic conductivity (K_{sat}). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

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

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

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 18 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable 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. 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 cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Water Features

Table 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.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

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

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

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

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

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

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

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 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, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (K_{sat}), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

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

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

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

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). 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. The categories are defined in the following paragraphs. Table 21 gives the classification of the soil series in the survey area.

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 class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, 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.

The orders in this survey area are Inceptisol, Ultisol, and Alfisol.

Most Inceptisols in this survey area have a very low degree of base saturation. Dystrudepts are an example of low-base Inceptisols. Other Inceptisols in this survey area have a higher degree of base saturation. Eutrudepts are an example of high-base Inceptisols. Regardless of the degree of base saturation, all Inceptisols in this survey area have a cambic horizon.

Dystrudepts in this survey area are moderately deep to very deep, somewhat poorly drained to somewhat excessively drained soils that formed on steep mountain slopes or on occasionally flooded flood plains. They commonly have a yellowish brown, dark brown, dark yellowish brown, or strong brown subsoil. Typic Dystrudepts are coarse-loamy or loamy-skeletal and have mixed or paramicaceous mineralogy. They include Edneyville, Ashe, Peaks, Chandler, and Brownwood soils on mountain ridges. Fluvaquentic Dystrudepts and Fluventic Dystrudepts are coarse-loamy and have mixed mineralogy. They include Comus and Iotla soils on flood plains. Humic Dystrudepts have a moderately thick, dark-colored A horizon. They are fine-loamy or loamy-skeletal and have mixed or isotic mineralogy. They include Porters, Tuckasegee, and Cullasaja soils in moist, cool areas on mountain ridges and in drainageways.

Eutrudepts are soils that have high base saturation. Dystric Eutrudepts include the Walnut series which lacks free carbonates in the soil profile. These soils are moderately deep and well drained. Typical subsoil colors include brown and yellowish brown. These soils are coarse-loamy and are mapped on mountain ridges.

Ultisols and Alfisols have an argillic horizon that exhibits clay translocation. Ultisols are leached to a greater degree than Alfisols. Hapludults, Kanhapludults, and Paleudults are examples of Ultisols. Hapludalfs are an example of Alfisols.

Hapludults and Kanhapludults in this survey area are moderately deep to very deep, usually well drained soils. Typic Hapludults and Typic Kanhapludults are fine-loamy or fine textured and have mixed, parasesquic, or kaolinitic mineralogy. They commonly have a red, reddish brown, yellowish red, or brown subsoil. They include Cliffield, Edneytown, Evard, Hayesville, Sauratown, and Watauga soils on mountain ridges; Cowee, Drapermill, Fairview, Hickoryknob, Rhodhiss, Stott Knob, Westfield, and Woolwine soils on piedmont hills; Clifford, Littlejoe, Minnieville, Penhook, and Strawfield soils on piedmont uplands; and Elsinboro and Thurmont soils on low stream terraces, colluvial footslopes, and toeslopes. Aquic Hapludults are fine-loamy and somewhat poorly drained soils on low stream terraces. They commonly have a light olive brown or light brownish gray subsoil. They include Delanco soils. Humic Hapludults include Goblintown and Trimont soils. These soils have dark surface layers with a very dark grayish brown, dark brown, or brown subsoil. They are fine-loamy to fine textured soils on uplands, hills, and mountain ridges.

Paleudults are very deep soils that do not have a decrease in clay content in the bottom of the profile. Typic Paleudults include Wintergreen soils. These soils formed in alluvium and colluvium and are on interfluves and high stream terraces. They are fine-textured, are well drained, have mixed mineralogy, and have red or dark red subsoils.

Hapludalfs in this survey area are shallow to very deep, somewhat poorly drained to well drained soils with more than 35 percent base saturation. Ultic and Typic Hapludalfs are fine-loamy to fine textured, are well drained, and have mixed or smectitic mineralogy. They commonly have an olive to yellowish red subsoil and formed in residuum on mountain ridges, piedmont hills, and uplands. They include Bluemount, Mirerock, Redbrush, Siloam, Myersville, Orenda, and Spriggs soils derived from high base parent materials. Aquic and Oxyaquic Hapludalfs are somewhat poorly drained to moderately well drained, very deep soils. They include Jackland soils that formed in residuum from high base parent materials. These soils are fine textured, have smectitic mineralogy, and have an olive brown, grayish brown, or gray subsoil. Also included are Colescreek soils on low stream terraces. These soils are fine-loamy, have mixed mineralogy, and have a light yellowish brown, yellowish brown, or light gray subsoil.

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) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). 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, 2006). 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.

Ashe Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks
Drainage class: Somewhat excessively drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope range: 8 to 95 percent

Associated Soils

- Edneytown soils, which have 18 to 35 percent clay in the subsoil and are very deep to bedrock; in less steep landform positions
- Edneyville soils, which are very deep to bedrock; in similar landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in less steep landform positions
- Peaks soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Sauratown soils, which have 18 to 35 percent clay in the subsoil; in less steep landform positions

Taxonomic Classification

Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Ashe gravelly fine sandy loam; located 6,500 feet north and 8 degrees west of the intersection of State Routes 602 and 739, in woodland, in the northwestern part of Franklin County, Virginia; Callaway, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 4 minutes 20.50 seconds N. and long. 80 degrees 5 minutes 9.55 seconds W.

A—0 to 1 inch; very dark grayish brown (10YR 3/2) gravelly fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through coarse roots; 16 percent subrounded granulite gravel; very strongly acid; abrupt smooth boundary.

Bw1—1 to 6 inches; dark yellowish brown (10YR 4/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine and fine and common medium and coarse roots; few fine mica flakes; 5 percent subrounded granulite cobbles and 15 percent subrounded granulite gravel; very strongly acid; clear smooth boundary.

Bw2—6 to 25 inches; dark yellowish brown (10YR 4/6) cobbly fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine through medium and few coarse roots; few fine mica flakes; 10 percent subrounded granulite cobbles and 15 percent subrounded granulite gravel; very strongly acid; clear smooth boundary.

R—25 to 80 inches; indurated granulite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 6 to 30 inches
Depth to soft bedrock: 20 to 40 inches (where present)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Extremely acid to moderately acid, except in limed areas
Rock fragments: 10 to 35 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon (if it occurs):
Hue—7.5YR or 10YR or multicolored
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Bluemount Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 75 percent

Associated Soils

- Jackland soils, which have 35 to 60 percent clay in the subsoil and are somewhat poorly drained; in similar and less steep landform positions
- Minnieville soils, which are very deep to bedrock, have 35 to 60 percent clay in the subsoil, and have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which have 35 to 60 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar landform positions

- Orenda soils, which are very deep to bedrock, have 35 to 60 percent clay in the subsoil, and have 35 to 60 percent base saturation; in similar and older landform positions
- Redbrush soils, which have 35 to 60 percent clay in the subsoil; in similar landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil and are shallow to partially weathered bedrock; in similar landform positions
- Spriggs soils, which are moderately deep to partially weathered bedrock and have 35 to 60 percent base saturation; in similar landform positions

Taxonomic Classification

Fine-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Bluemount gravelly silt loam; located 3,700 feet north and 25 degrees west of the intersection of State Routes 890 and 882, in woodland, in the southeastern part of Franklin County, Virginia; Snow Creek, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 48 minutes 54.70 seconds N. and long. 79 degrees 49 minutes 8.70 seconds W.

A—0 to 4 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine through medium roots; 5 percent subrounded amphibolite cobbles and 11 percent subrounded amphibolite gravel; strongly acid; clear smooth boundary.

Bt1—4 to 9 inches; dark yellowish brown (10YR 4/6) silt loam; weak fine subangular blocky structure; very friable, nonsticky, slightly plastic; common very fine through very coarse roots; few faint clay films on all faces of peds; 3 percent subrounded amphibolite gravel and 10 percent subrounded amphibolite cobbles; moderately acid; clear smooth boundary.

Bt2—9 to 14 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common very fine through medium roots; common distinct clay films on all faces of peds; 3 percent subrounded amphibolite gravel and 10 percent subrounded amphibolite cobbles; moderately acid; clear smooth boundary.

Bt3—14 to 24 inches; yellowish brown (10YR 5/6) very cobbly clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine through coarse roots; common distinct clay films on all faces of peds and on rock fragments; 10 percent subrounded amphibolite gravel and 40 percent subrounded amphibolite cobbles; moderately acid; abrupt wavy boundary.

R—24 to 80 inches; indurated amphibolite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches (where present)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Strongly acid to slightly acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer, 0 to 50 percent in the subsurface layer and subsoil, and 15 to 50 percent in the substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5

Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

AB or BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—loam, silt loam, or clay loam

Cr/Bt horizon (if it occurs):
Color—similar to the Bt horizon
Texture—similar to the Bt horizon

BC or C horizon (if it occurs):
Hue—7.5YR to 5Y
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or silt loam

Brownwood Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope range: 8 to 95 percent

Associated Soils

- Chandler soils, which are very deep to bedrock; in similar landform positions
- Watauga soils, which are very deep to bedrock and have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions

Taxonomic Classification

Coarse-loamy, paramicaceous, mesic Typic Dystrudepts

Typical Pedon

Brownwood fine sandy loam; located 4,600 feet north and 51 degrees east of the intersection of State Routes 640 and 666, in woodland, in the western part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 42.60 seconds N. and long. 80 degrees 7 minutes 36.20 seconds W.

A—0 to 6 inches; very dark grayish brown (10YR 3/3) fine sandy loam; weak very fine granular structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; few fine mica flakes; 5 percent subangular mica schist flagstones and 5 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

BA—6 to 10 inches; very dark grayish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; common fine mica flakes; 5 percent subangular mica schist flagstones; very strongly acid; clear smooth boundary.

Bw1—10 to 16 inches; dark yellowish brown (7.5YR 4/6) fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; many fine mica flakes; 2 percent subangular mica schist cobbles and 3 percent subangular mica schist channers; strongly acid; gradual wavy boundary.

Bw2—16 to 35 inches; dark yellowish brown (7.5YR 4/6) cobbly fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; many fine mica flakes; 5 percent subangular mica schist channers and 20 percent subangular mica schist cobbles; very strongly acid; gradual irregular boundary.

Cr—35 to 45 inches; moderately cemented mica schist bedrock.

R—45 to 80 inches; indurated mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 10 to 35 inches

Depth to soft bedrock: 20 to 40 inches

Depth to hard bedrock: 40 to 60 inches

Content of mica flakes: Few to many in the surface layer and subsurface layer and many in the subsoil and substratum

Reaction: Very strongly acid or strongly acid, except in limed areas

Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 5
Texture (fine-earth fraction)—fine sandy loam or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BC horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon (if it occurs):
Hue—7.5YR or 10YR or multicolored
Value—4 or 5
Chroma—2 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Chandler Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 8 to 95 percent

Associated Soils

- Brownwood soils, which are moderately deep to partially weathered bedrock; in similar landform positions
- Watauga soils, which have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions

Taxonomic Classification

Coarse-loamy, micaceous, mesic Typic Dystrudepts

Typical Pedon

Chandler loam; located 3,200 feet north and 45 degrees east of the intersection of State Routes 640 and 666, in woodland, in the western part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 36.70 seconds N. and long. 80 degrees 7 minutes 53.10 seconds W.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) loam; moderate fine granular structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; few fine tubular pores; common fine mica flakes; strongly acid; clear smooth boundary.

BA—4 to 8 inches; very dark grayish brown (10YR 3/2) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common very fine through very coarse roots; few fine tubular pores; common fine mica flakes; strongly acid; clear smooth boundary.

Bw—8 to 16 inches; dark yellowish brown (10YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; common very fine through very coarse roots; few coarse tubular pores; many fine mica flakes; very strongly acid; gradual smooth boundary.

BC—16 to 22 inches; dark yellowish brown (10YR 4/6) sandy loam; weak very fine subangular blocky structure; friable, nonsticky, nonplastic; common fine through very coarse roots; few coarse tubular pores; many fine mica flakes; very strongly acid; gradual smooth boundary.

C1—22 to 30 inches; dark yellowish brown (10YR 4/6) sandy loam; massive; very friable, nonsticky, nonplastic; few fine through very coarse roots; many fine mica flakes; very strongly acid; gradual smooth boundary.

C2—30 to 80 inches; dark yellowish brown (10YR 4/6) parachannery sandy loam; massive; very friable, nonsticky, nonplastic; few fine through very coarse roots; many fine and medium mica flakes; 30 percent subangular mica schist channers; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 10 to 30 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few to many in the surface layer and subsurface layer and many in the subsoil and substratum

Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 5
Texture (fine-earth fraction)—fine sandy loam or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Cliffield Series

Physiographic province: Piedmont
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 45 percent

Associated Soils

- Edneytown soils, which have 18 to 35 percent clay in the subsoil and are very deep to bedrock; in less steep landform positions
- Edneyville soils, which are very deep to bedrock; in similar landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in less steep landform positions
- Peaks soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Sauratown soils, which have 18 to 35 percent clay in the subsoil; in less steep landform positions

Taxonomic Classification

Loamy-skeletal, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Cliffield very cobbly fine sandy loam; located 4,250 feet north and 63 degrees east of the intersection of State Routes 1479 and 1460, in woodland, in the western part of Surry County, North Carolina; Roaring Gap, North Carolina USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 27 minutes 31.00 seconds N. and long. 80 degrees 57 minutes 37.00 seconds W.

A—0 to 3 inches; brown (10YR 4/3) very cobbly fine sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; common fine and medium and few coarse roots; common fine tubular pores; few fine mica flakes; 1 percent subangular mica schist flagstones, 3 percent subangular mica schist stones, 20 percent subangular mica schist gravel, and 35 percent subangular mica schist cobbles; extremely acid; clear smooth boundary.

BA—3 to 6 inches; brown (10YR 4/3) very cobbly loam; weak fine subangular blocky structure parting to weak medium granular; very friable, nonsticky, nonplastic; common fine and medium and few coarse roots; common fine tubular pores; few fine mica flakes; 1 percent subangular mica schist stones, 1 percent subangular mica schist flagstones, 20 percent subangular mica schist gravel, and 25 percent subangular mica schist cobbles; very strongly acid; clear smooth boundary.

Bt1—6 to 15 inches; brown (7.5YR 5/4) very cobbly sandy clay loam; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; common fine and medium and few coarse roots; common fine tubular pores; few distinct clay films on all faces of peds; common fine mica flakes; 2 percent subangular mica schist flagstones, 20 percent subangular mica schist gravel, and 25 percent subangular mica schist cobbles; extremely acid; gradual wavy boundary.

Bt2—15 to 23 inches; yellowish red (5YR 4/6) extremely cobbly sandy clay loam; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine through coarse roots; common fine tubular pores; few distinct clay films on all faces of peds; common fine mica flakes; 1 percent subangular mica schist stones, 4 percent subangular mica schist flagstones, 30 percent subangular mica schist gravel, and 35 percent subangular mica schist cobbles; very strongly acid; abrupt wavy boundary.

R—23 to 80 inches; indurated mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 12 to 34 inches
Depth to soft bedrock: 20 to 40 inches (where present)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: Few or common
Reaction: Extremely acid to strongly acid, except in limed areas
Rock fragments: 35 to 60 percent in the surface layer, 15 to 80 percent in the subsurface layer, and 25 to 80 percent in the subsoil and substratum

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

C horizon (if it occurs):
Hue—5YR to 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, or fine sandy loam

Clifford Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, and metagraywacke
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 45 percent

Associated Soils

- Fairview soils, which have a thinner kandic horizon; in similar and steeper landform positions
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Minnieville soils, which have mafic geology; in similar landform positions
- Rhodhiss soils, which have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Stott Knob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar and steeper landform positions
- Westfield soils, which are deep to partially weathered bedrock; in similar and steeper landform positions
- Wintergreen soils, which are alluvial and colluvial; in similar landform positions
- Woolwine soils, which are moderately deep to partially weathered bedrock; in similar landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Clifford fine sandy loam; located 2,150 feet south and 50 degrees east of the intersection of State Routes 606 and 607, in woodland, in the south-central part of Franklin County, Virginia; Rocky Mount, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 55 minutes 10.70 seconds N. and long. 79 degrees 57 minutes 1.50 seconds W.

A—0 to 7 inches; brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; common very fine through coarse roots; few fine mica flakes; 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt1—7 to 11 inches; yellowish red (5YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine and few medium and coarse roots; few faint clay films on all faces of peds; few fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; clear wavy boundary.

Bt2—11 to 33 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; friable, moderately sticky, slightly plastic; common very fine and fine and few medium and coarse roots; many distinct clay films on all faces of peds; common fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; gradual wavy boundary.

Bt3—33 to 54 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common very fine and fine roots; many distinct clay films on all faces of peds; many fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; gradual wavy boundary.

BCt—54 to 62 inches; red (2.5YR 4/6) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common distinct clay films on all faces of peds; many fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; gradual wavy boundary.

C—62 to 82 inches; red (2.5YR 4/6), dark red (2.5YR 3/6), and strong brown (7.5YR 4/6) fine sandy loam; massive; very friable, slightly sticky, slightly plastic; many fine mica flakes; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Kandic horizon, 25 to 60 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few to many
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent throughout the profile

A or Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam or loam

BA horizon (if it occurs):
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—2.5YR or 5YR; 5YR colors are restricted to individual subhorizons
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon:
Hue—2.5YR or 5YR
Value—4 or 5

Chroma—6 or 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

C horizon:
Hue—2.5YR to 7.5YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, or clay loam

Colescreek Series

Physiographic province: Blue Ridge and Piedmont
Landform: Low stream terraces in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 8 percent

Associated Soils

- Comus soils, which have less than 18 percent clay in the subsoil, are well drained, have less than 35 percent base saturation, and are occasionally flooded; in flood plain positions
- Delanco soils, which are somewhat poorly drained and have less than 35 percent base saturation; in similar landform positions
- Elsinboro soils, which are well drained and have less than 35 percent base saturation; in similar landform positions
- Iotla soils, which have less than 18 percent clay in the subsoil, are somewhat poorly drained, have less than 35 percent base saturation, and are occasionally flooded; in flood plain positions
- Maggodee soils, which have less than 18 percent clay in the subsoil, have less than 35 percent base saturation, and are occasionally flooded; in flood plain positions
- Thurmont soils, which are non-flooded and colluvial; in similar and less wet landform positions
- Wintergreen soils, which have 35 to 60 percent clay in the subsoil, are well drained, are non-flooded, and have less than 35 percent base saturation; in high terrace, footslope, and toeslope positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Colescreek fine sandy loam; located 4,600 feet south and 63 degrees west of the intersection of State Routes 604 and 810, in a cornfield, in the south-central part of Franklin County, Virginia; Gladehill, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 52 minutes 57.80 seconds N. and long. 79 degrees 50 minutes 22.00 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) fine sandy loam; weak very fine and fine subangular blocky structure parting to moderate fine and medium granular; very friable, nonsticky, nonplastic; common very fine and fine and few coarse roots; few fine and medium tubular pores; common fine mica flakes; 2 percent subrounded quartz gravel; moderately acid; abrupt smooth boundary.
Bt1—9 to 16 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and

medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine and medium tubular pores; common distinct clay films on all faces of peds; many fine mica flakes; slightly acid; clear smooth boundary.

Bt2—16 to 25 inches; yellowish brown (10YR 5/4) sandy clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine and medium tubular pores; few faint clay films on all faces of peds; many fine mica flakes; slightly acid; gradual smooth boundary.

Bt3—25 to 33 inches; yellowish brown (10YR 5/4) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few faint clay films on all faces of peds; common fine and medium irregular yellowish brown (10YR 5/8) masses of oxidized iron; many fine mica flakes; neutral; clear smooth boundary.

Bt4—33 to 42 inches; light yellowish brown (10YR 6/4) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few faint clay films on all faces of peds; few medium irregular moderately cemented very dark brown (7.5YR 2.5/2) iron-manganese concretions, common fine and medium irregular light gray (10YR 7/2) iron depletions, and common fine and medium irregular yellowish brown (10YR 5/8) masses of oxidized iron; many fine mica flakes; slightly acid; clear smooth boundary.

Btg—42 to 50 inches; light gray (10YR 7/1) clay loam; weak fine and medium subangular blocky structure; firm, slightly sticky, moderately plastic; common faint clay films on all faces of peds; many medium and coarse irregular yellowish brown (10YR 5/6) masses of oxidized iron; many fine mica flakes; strongly acid; clear smooth boundary.

BCg—50 to 56 inches; light gray (10YR 7/1) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many medium and coarse irregular yellowish brown (10YR 5/6) masses of oxidized iron; many fine mica flakes; strongly acid; clear smooth boundary.

Cg1—56 to 70 inches; gray (10YR 6/1) sand; single grain; loose, nonsticky, nonplastic; many medium and coarse irregular light yellowish brown (2.5Y 6/3) masses of oxidized iron; many fine mica flakes; moderately acid; clear smooth boundary.

Cg2—70 to 80 inches; light brownish gray (10YR 6/2) sand; single grain; loose, nonsticky, nonplastic; many fine mica flakes; 5 percent subrounded quartz gravel; moderately acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 50 inches

Depth to soft bedrock: More than 60 inches

Depth to hard bedrock: More than 60 inches

Content of mica flakes: Few to many

Reaction: Strongly acid to neutral, except in limed areas

Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

Redoximorphic features: Shades of red, brown, yellow, or gray in the lower Bt, Btg, BC, BCg, C, or Cg horizon

A or Ap horizon:

Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):

Hue—7.5YR or 10YR

Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, clay loam, or silty clay loam

Btg or BCg horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—1 or 2
Texture (fine-earth fraction)—loam, sandy clay loam, clay loam, silty clay loam, or clay

BC horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, loam, silt loam, or sandy clay loam

C horizon (if it occurs):
Hue—10YR to 5Y
Value—4 to 8
Chroma—3 to 6
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, fine sandy loam, loam, silt loam, or sandy clay loam

Cg horizon:
Hue—10YR to 5Y
Value—4 to 8
Chroma—1 or 2
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, fine sandy loam, loam, silt loam, or sandy clay loam

Comus Series

Physiographic province: Blue Ridge and Piedmont
Landform: Flood plains in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Colescreek soils, which are moderately well drained, have more than 35 percent base saturation, have 18 to 35 percent clay in the subsoil, and are rarely flooded; in low stream terrace positions
- Delanco soils, which have 18 to 35 percent clay in the subsoil, are somewhat poorly drained, and are rarely flooded; in low stream terrace positions
- Elsinboro soils, which have 18 to 35 percent clay in the subsoil and are rarely flooded; in low stream terrace positions

- Iotla soils, which are somewhat poorly drained; in similar landform positions
- Maggodee soils, which are moderately well drained; in similar landform positions

Taxonomic Classification

Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon

Comus fine sandy loam; located 1,175 feet south and 64 degrees east of the intersection of State Routes 602 and 641, in a hayfield, in the western part of Franklin County, Virginia; Callaway, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 0 minutes 33.30 seconds N. and long. 80 degrees 2 minutes 46.40 seconds W.

Ap—0 to 12 inches; brown (10YR 4/3) fine sandy loam; weak fine and medium granular structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine tubular pores; common fine mica flakes; neutral; abrupt smooth boundary.

Bw1—12 to 27 inches; brown (7.5YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine tubular pores; common fine mica flakes; neutral; clear smooth boundary.

Bw2—27 to 47 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; few very fine roots; few coarse tubular pores; common fine mica flakes; strongly acid; gradual smooth boundary.

C1—47 to 56 inches; dark yellowish brown (10YR 4/4) loamy sand; single grain; very friable, nonsticky, nonplastic; few fine through very coarse roots; many fine and medium mica flakes; 5 percent rounded quartz gravel; strongly acid; clear smooth boundary.

C2—56 to 62 inches; light brownish gray (10YR 6/2), pale brown (10YR 6/3), and dark yellowish brown (10YR 4/4) loamy sand; single grain; very friable, nonsticky, nonplastic; few fine through very coarse roots; many fine and medium mica flakes; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 10 to 40 inches or more

Depth to soft bedrock: More than 60 inches

Depth to hard bedrock: More than 60 inches

Content of mica flakes: Few to many

Reaction: Very strongly acid to moderately acid, except in limed areas

Rock fragments: 0 to 15 percent above a depth of 40 inches and 0 to 35 percent below a depth of 40 inches

A or Ap horizon:

Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:

Hue—7.5YR to 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Cowee Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 45 percent

Associated Soils

- Cliffield soils, which are moderately deep to unweathered bedrock and have more than 35 percent rock fragments in the top 20 inches of the argillic horizon; in similar landform positions
- Evard soils, which are very deep to bedrock; in similar landform positions

Taxonomic Classification

Fine-loamy, parasesquic, mesic Typic Hapludults

Typical Pedon

Cowee cobbly loam; located 6,700 feet north and 53 degrees west of the intersection of State Routes 8 and 640, in woodland, in the western part of Patrick County, Virginia; Stuart, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 42 minutes 39.00 seconds N. and long. 80 degrees 16 minutes 20.00 seconds W.

A—0 to 3 inches; dark brown (7.5YR 3/4) cobbly loam; weak medium granular structure; very friable, nonsticky, nonplastic; few very fine and fine roots; few fine mica flakes; 1 percent subrounded mica gneiss stones, 10 percent subrounded mica gneiss cobbles, and 10 percent subrounded mica gneiss gravel; very strongly acid; clear smooth boundary.

BA—3 to 6 inches; yellowish red (5YR 4/6) gravelly loam; weak fine subangular blocky structure; very friable, moderately sticky, slightly plastic; few very fine and fine roots; few fine mica flakes; 5 percent subrounded mica gneiss cobbles and 11 percent subrounded mica gneiss gravel; very strongly acid; clear smooth boundary.

Bt—6 to 18 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; common faint clay films on all faces of peds; common fine mica flakes; 10 percent subrounded mica gneiss gravel; very strongly acid; gradual wavy boundary.

BC—18 to 23 inches; red (2.5YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common fine mica flakes; 10 percent subrounded mica gneiss gravel; strongly acid; gradual wavy boundary.

C—23 to 30 inches; yellowish red (5YR 5/6) gravelly fine sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; 16 percent subrounded mica gneiss gravel; strongly acid; abrupt irregular boundary.

Cr—30 to 43 inches; moderately cemented mica gneiss bedrock.
R—43 to 80 inches; indurated mica gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 10 to 28 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Content of mica flakes: Few or common
Reaction: Extremely acid to moderately acid, except in limed areas
Rock fragments: 15 to 40 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon:
Hue—5YR or 7.5YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—2.5YR to 7.5YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, or sandy clay loam

C horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Cullasaja Series

Physiographic province: Blue Ridge
Landform: Drainageways and ridges on mountains
Parent material: Colluvium from metamorphic and igneous materials
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 5 to 60 percent

Associated Soils

- Dellwood soils, which have textures of sand or loamy sand between a depth of 10 and 40 inches and are occasionally flooded; in flood plain positions

- Tuckasegee soils, which have less than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions

Taxonomic Classification

Loamy-skeletal, isotic, mesic Humic Dystrudepts

Typical Pedon

Cullasaja channery mucky loam; located 8,300 feet north and 82 degrees east of the intersection of State Routes 600 and 614, in woodland, in the western part of Patrick County, Virginia; Meadows of Dan, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 40 minutes 16.00 seconds N. and long. 80 degrees 26 minutes 40.00 seconds W.

A1—0 to 3 inches; black (10YR 2/1) channery mucky loam; moderate medium granular structure; very friable, nonsticky, nonplastic; common fine through coarse roots; few fine tubular pores; common fine mica flakes; 10 percent subrounded gravel and 20 percent subangular channers; very strongly acid; clear wavy boundary.

A2—3 to 7 inches; very dark brown (10YR 2/2) channery loam; weak medium and coarse granular structure; friable, nonsticky, nonplastic; common fine through coarse roots; few fine tubular pores; common fine mica flakes; 10 percent subrounded gravel and 20 percent subangular channers; strongly acid; clear wavy boundary.

Bw1—7 to 16 inches; dark brown (10YR 3/3) channery loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common fine through coarse roots; few fine tubular pores; common fine mica flakes; 5 percent subrounded gravel and 20 percent subangular channers; strongly acid; gradual wavy boundary.

Bw2—16 to 23 inches; dark yellowish brown (10YR 4/4) channery fine sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few fine through coarse roots; few coarse tubular pores; common fine mica flakes; 5 percent subrounded gravel and 20 percent subangular channers; strongly acid; gradual wavy boundary.

Bw3—23 to 47 inches; dark yellowish brown (10YR 4/4) very channery fine sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few fine through coarse roots; few coarse tubular pores; common fine mica flakes; 5 percent subrounded stones, 10 percent subrounded gravel, and 35 percent subangular channers; strongly acid; gradual wavy boundary.

BC—47 to 60 inches; dark yellowish brown (10YR 4/4) very channery fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few fine through coarse roots; common fine mica flakes; 5 percent subrounded gravel, 10 percent subrounded stones, and 25 percent subangular channers; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 20 to 60 inches or more

Depth to soft bedrock: More than 60 inches

Depth to hard bedrock: More than 60 inches

Content of mica flakes: Few or common

Reaction: Very strongly acid to moderately acid, except in limed areas

Rock fragments: 10 to 40 percent in the surface layer, 10 to 60 percent in the subsurface layer, 10 to 70 percent in the subsoil, and 15 to 70 percent in the substratum

A horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—1 to 3
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

AB or BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BC horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—3 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Delanco Series

Physiographic province: Blue Ridge and Piedmont
Landform: Low stream terraces in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Codorus soils, which are somewhat poorly drained; on adjacent flood plains
- Colvard soils, which are well drained; on adjacent flood plains
- Elsinboro soils, which are well drained; in similar landform positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Delanco loam; located 8,825 feet east of the intersection of State Routes 220 and 718, in a cornfield, in the southern part of Franklin County, Virginia; Gladehill, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 52 minutes 55.80 seconds N. and long. 79 degrees 50 minutes 21.80 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine and fine roots; common fine mica flakes; strongly acid; clear smooth boundary.

Bt—10 to 26 inches; light olive brown (2.5Y 5/3) clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine and fine roots; common distinct clay films on all faces of peds; common medium irregular yellowish brown (10YR 5/8) masses of oxidized iron and common medium irregular light brownish gray (10YR 6/2) iron depletions; many fine mica flakes; moderately acid; clear smooth boundary.

Btg—26 to 37 inches; light brownish gray (2.5Y 6/2) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; common faint clay films on all faces of peds; many medium and coarse irregular yellowish brown (10YR 5/6) masses of oxidized iron; many fine mica flakes; moderately acid; clear smooth boundary.

Cg1—37 to 50 inches; light gray (2.5Y 7/1) clay loam; massive; firm, slightly sticky, slightly plastic; common medium and coarse irregular light olive brown (2.5Y 5/6) masses of oxidized iron; many fine mica flakes; moderately acid; clear smooth boundary.

Cg2—50 to 57 inches; light gray (5Y 7/1) loamy sand; single grain; very friable, nonsticky, nonplastic; common medium and coarse irregular light olive brown (2.5Y 5/6) masses of oxidized iron; many fine mica flakes; 5 percent subrounded quartz gravel; moderately acid; clear smooth boundary.

2Cg3—57 to 80 inches; light gray (5Y 7/1) very gravelly sand; single grain; very friable, nonsticky, nonplastic; common medium and coarse irregular light olive brown (2.5Y 5/6) masses of oxidized iron; many fine mica flakes; 15 percent subrounded quartz cobbles and 35 percent subrounded quartz gravel; moderately acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few to many
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer, 0 to 20 percent in the subsurface layer and subsoil, 0 to 25 percent in the substratum, and 0 to 50 percent below the discontinuity
Redoximorphic features: Shades of red, brown, yellow, or gray in the Bt, Btg, BC, BCg, C, Cg, or 2Cg horizon

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture (fine-earth fraction)—loam, sandy clay loam, clay loam, or clay

BC or C horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, loam, or sandy clay loam

BCg or Cg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

2Cg horizon:
Hue—10YR to 5Y
Value—4 to 8
Chroma—1 or 2
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Comments

The Delanco series does not allow moderately acid pH values. This pedon, which is representative of the survey area, has pH values in the moderately acid range.

Dellwood Series

Physiographic province: Blue Ridge
Landform: Flood plains in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 5 percent

Associated Soils

- Cullasaja soils, which have less sand between a depth of 10 and 40 inches and are nonflooded; in steeper colluvial landform positions
- Tuckasegee soils, which have less than 35 percent rock fragments between a depth of 10 and 40 inches and are nonflooded; in steeper colluvial landform positions

Taxonomic Classification

Sandy-skeletal, mixed, mesic Oxyaquic Dystrudepts

Typical Pedon

Dellwood cobbly sandy loam; located 1,600 feet north and 5 degrees west of the intersection of State Routes 610 and 764, in a wooded pasture, in the western part of Patrick County, Virginia; Stuart, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat.

36 degrees 44 minutes 33.00 seconds N. and long. 80 degrees 21 minutes 48.00 seconds W.

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine through coarse roots; few fine mica flakes; 15 percent subrounded gravel and 15 percent subrounded cobbles; strongly acid; clear wavy boundary.

A2—8 to 14 inches; dark yellowish brown (10YR 3/4) very cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine through coarse roots; few fine mica flakes; 15 percent subrounded gravel and 30 percent subrounded cobbles; very strongly acid; clear wavy boundary.

Bw—14 to 18 inches; dark yellowish brown (10YR 4/4) cobbly sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few fine roots; common fine mica flakes; 15 percent subrounded gravel and 15 percent subrounded cobbles; strongly acid; clear wavy boundary.

C1—18 to 31 inches; brown (10YR 4/3) very cobbly loamy sand; single grain; loose, nonsticky, nonplastic; common fine mica flakes; 5 percent rounded stones, 20 percent subrounded gravel, and 30 percent subrounded cobbles; moderately acid; gradual wavy boundary.

C2—31 to 60 inches; brown (10YR 5/3) very cobbly loamy sand; single grain; loose, nonsticky, nonplastic; common fine mica flakes; 16 percent subrounded gravel and 20 percent subrounded cobbles; moderately acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 8 to 18 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer, 15 to 60 percent in individual subsurface layers and the subsoil, and 15 to 65 percent in the substratum
Redoximorphic features: Shades of red, brown, yellow, or gray in the Bw or C horizon

A or Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture (fine-earth fraction)—sandy loam or fine sandy loam

A2, AB, BA, or AC horizon:
Hue—7.5YR or 10YR
Value—3
Chroma—2 to 4
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, or fine sandy loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam or fine sandy loam

C horizon:
Hue—7.5YR to 2.5Y or multicolored
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sand or loamy sand

Drapermill Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from phyllite and schist
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 25 to 60 percent

Associated Soils

- Goblintown soils, which have 35 to 60 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar landform positions
- Littlejoe soils, which have 35 to 60 percent clay in the subsoil and are deep to bedrock; in similar and less steep landform positions
- Penhook soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Strawfield soils, which have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Drapermill gravelly silt loam; located 5,300 feet north and 31 degrees east of the intersection of State Routes 619 and 854, in woodland, in the southeastern part of Franklin County, Virginia; Gladehill, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 54 minutes 16.30 seconds N. and long. 79 degrees 46 minutes 34.50 seconds W.

A—0 to 3 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; 6 percent subangular phyllite channers and 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

BA—3 to 7 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; few medium and coarse tubular pores; 6 percent subangular phyllite channers and 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt—7 to 21 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through very coarse roots; few medium and coarse tubular pores; few faint clay films on all faces of peds; 6 percent subangular phyllite channers and 10 percent subrounded quartz gravel; strongly acid; gradual smooth boundary.

BC—21 to 29 inches; strong brown (7.5YR 5/6) gravelly silt loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through very coarse roots; 6 percent subangular phyllite channers and 10 percent subrounded quartz gravel; strongly acid; clear irregular boundary.

C/Bt—29 to 35 inches; C part is 60 percent strong brown (7.5YR 5/6) channery silt loam; massive; friable, nonsticky, nonplastic; 20 percent subangular phyllite channers; B part is 40 percent red (10R 4/6) silty clay; moderate fine subangular blocky structure; firm, sticky, and plastic; common distinct clay films on vertical faces of peds; 5 percent subangular phyllite channers; strongly acid; clear irregular boundary.

R—35 to 80 inches; indurated phyllite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches (if it occurs)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Extremely acid to strongly acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum
Other characteristics: The particle-size control section averages more than 30 percent silt, more than 40 percent silt plus very fine sand, and less than 15 percent sand coarser than very fine sand

A horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

BC horizon:
Hue—2.5YR to 10YR
Value—5 or 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR or multicolored
Value—4 to 8
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, silt loam, clay loam, or silty clay loam

Comments

This pedon has a C/Bt horizon of parent material and translocated clay directly above bedrock. Translocated clay textures in this horizon are usually heavier and redder than in overlying illuvial horizons.

Edneytown Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks
Drainage class: Well drained

Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 95 percent

Associated Soils

- Ashe soils, which have less than 18 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Edneyville soils, which have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Peaks soils, which have less than 18 percent clay in the subsoil, have more than 35 percent rock fragments between a depth of 10 and 40 inches, and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Sauratown soils, which are moderately deep to unweathered bedrock; in similar landform positions

Taxonomic Classification

Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Edneytown gravelly loam; located 900 feet north and 80 degrees east of the intersection of State Routes 116 and 682, in woodland, in the northern part of Franklin County, Virginia; Garden City, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 11 minutes 16.00 seconds N. and long. 79 degrees 52 minutes 30.20 seconds W.

A—0 to 4 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine through very coarse roots; 16 percent subrounded gneiss gravel; very strongly acid; clear smooth boundary.
BA—4 to 12 inches; strong brown (7.5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; 5 percent subrounded gneiss gravel; very strongly acid; clear smooth boundary.
Bt1—12 to 35 inches; yellowish red (5YR 4/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through medium roots; common faint clay films on all faces of peds; 5 percent subrounded gneiss gravel; very strongly acid; gradual smooth boundary.
Bt2—35 to 45 inches; strong brown (7.5YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine through coarse roots; few faint clay films on all faces of peds; 5 percent subrounded gneiss gravel; very strongly acid; gradual smooth boundary.
BC—45 to 52 inches; strong brown (7.5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; 5 percent subrounded gneiss gravel; very strongly acid; gradual smooth boundary.
C—52 to 65 inches; strong brown (7.5YR 4/6) fine sandy loam; massive; very friable, nonsticky, nonplastic; 10 percent subrounded gneiss gravel; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 15 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 10 to 35 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or AB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—5YR to 10YR; 5YR colors are restricted to individual subhorizons
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—7.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Comments

The Edneytown series does not allow 5YR hues in the subsoil. This pedon, which is representative of the survey area, has redder hues in individual subsoil horizons.

Edneyville Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 8 to 95 percent

Associated Soils

- Ashe soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Edneytown soils, which have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions
- Peaks soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches and are moderately deep to unweathered bedrock; in similar landform positions

- Sauratown soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and less steep landform positions

Taxonomic Classification

Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Edneyville gravelly loam; located 8,000 feet south and 27 degrees west of the intersection of State Routes 602 and 643, in woodland, in the northwestern part of Franklin County, Virginia; Callaway, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 5 minutes 37.00 seconds N. and long. 80 degrees 6 minutes 31.00 seconds W.

A—0 to 6 inches; brown (10YR 4/3) gravelly loam; moderate fine granular structure; very friable, slightly sticky, nonplastic; many very fine and fine and common medium and coarse roots; 18 percent subrounded granulite gravel; very strongly acid; clear smooth boundary.

Bw—6 to 29 inches; strong brown (7.5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine and few medium and coarse roots; few fine mica flakes; 10 percent subrounded granulite gravel; very strongly acid; gradual wavy boundary.

C—29 to 61 inches; dark yellowish brown (10YR 4/4) fine sandy loam; massive; friable, nonsticky, nonplastic; few fine through very coarse roots; common fine mica flakes; 10 percent subrounded granulite gravel; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 15 to 55 inches or more
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 10 to 35 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BC horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—4 to 6

Chroma—4 or 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Elsinboro Series

Physiographic province: Blue Ridge and Piedmont
Landform: Low stream terraces in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 8 percent

Associated Soils

- Colescreek soils, which are moderately well drained and have more than 35 percent base saturation; in similar landform positions
- Comus soils, which have less than 18 percent clay in the subsoil and are occasionally flooded; in flood plain positions
- Delanco soils, which are somewhat poorly drained; in similar landform positions
- Iotla soils, which have less than 18 percent clay in the subsoil, are somewhat poorly drained, and are occasionally flooded; in flood plain positions
- Maggodee soils, which have less than 18 percent clay in the subsoil, are moderately well drained, and are occasionally flooded; in flood plain positions
- Wintergreen soils, which have 35 to 60 percent clay in the subsoil and are non-flooded; in high terrace, footslope, and toeslope positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Elsinboro loam; located 9,850 feet south and 75 degrees west of the intersection of State Route 646 and the Pigg River near Fralin Bridge, in a soybean field, in the southeastern part of Franklin County, Virginia; Penhook, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 55 minutes 36.10 seconds N. and long. 79 degrees 44 minutes 57.50 seconds W.

Ap—0 to 11 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; few fine and common very fine roots; strongly acid; abrupt smooth boundary.
Bt1—11 to 25 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; few faint clay films on all faces of peds; common fine mica flakes; strongly acid; gradual smooth boundary.
Bt2—25 to 38 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; few faint clay films on all faces of peds; common fine mica flakes; strongly acid; gradual smooth boundary.
C—38 to 60 inches; brown (7.5YR 5/4) sandy loam; massive; very friable, slightly sticky, nonplastic; common fine mica flakes; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches

Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 0 to 15 percent throughout the profile

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture (fine-earth fraction)—fine sandy loam or loam

BA or AB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon (if it occurs):
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam or clay loam

C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Evard Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 45 percent

Associated Soils

- Cliffield soils, which are moderately deep to unweathered bedrock and have more than 35 percent rock fragments in the top 20 inches of the argillic horizon; in similar landform positions
- Cowee soils, which are moderately deep to partially weathered bedrock; in similar landform positions

Taxonomic Classification

Fine-loamy, parasesquic, mesic Typic Hapludults

Typical Pedon

Evard gravelly fine sandy loam; located 3,200 feet north and 33 degrees west of the intersection of State Routes 40 and 716, in a cutover, in the northern part of Patrick County, Virginia; Charity, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 50 minutes 46.00 seconds N. and long. 80 degrees 13 minutes 23.00 seconds W.

A—0 to 4 inches; dark brown (7.5YR 3/4) gravelly fine sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; few fine mica flakes; 1 percent subrounded gneiss stones, 10 percent subrounded gneiss cobbles, and 21 percent subrounded gneiss gravel; very strongly acid; clear wavy boundary.

BA—4 to 7 inches; yellowish red (5YR 4/6) gravelly loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine mica flakes; 5 percent subrounded gneiss cobbles and 20 percent subrounded gneiss gravel; very strongly acid; clear wavy boundary.

Bt1—7 to 14 inches; yellowish red (5YR 4/6) gravelly clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common distinct clay films on all faces of peds; common fine mica flakes; 1 percent subrounded gneiss cobbles and 15 percent subrounded gneiss gravel; very strongly acid; gradual wavy boundary.

Bt2—14 to 28 inches; red (2.5YR 4/8) gravelly clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few faint clay films on all faces of peds; common fine mica flakes; 16 percent subrounded gneiss gravel; very strongly acid; gradual wavy boundary.

BC—28 to 33 inches; red (2.5YR 4/6) gravelly fine sandy loam; weak coarse subangular blocky structure; very friable, slightly sticky, slightly plastic; common fine mica flakes; 16 percent subrounded gneiss gravel; very strongly acid; gradual wavy boundary.

C1—33 to 49 inches; red (2.5YR 4/6) gravelly fine sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; 16 percent subrounded gneiss gravel; strongly acid; gradual wavy boundary.

C2—49 to 72 inches; yellowish red (5YR 5/6) gravelly fine sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; 16 percent subrounded gneiss gravel; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 12 to 28 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common in the surface layer, subsurface layer, and upper subsoil and none to many in the lower subsoil and in the substratum
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 15 to 40 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon:
Hue—2.5YR to 10YR
Value—4 to 8
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 to 8
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—2.5YR or 5YR
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—2.5YR to 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, or fine sandy loam

Fairview Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 60 percent

Associated Soils

- Clifford soils, which have a thicker kandic horizon; in similar and less steep landform positions
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Rhodhiss soils, which have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Stott Knob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar and steeper landform positions
- Westfield soils, which are deep to partially weathered bedrock; in similar and steeper landform positions
- Woolwine soils, which are moderately deep to partially weathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Fairview fine sandy loam; located 9,600 feet north and 29 degrees west of the intersection of State Routes 618 and 632, in woodland, in the southern part of Franklin County, Virginia; Snow Creek, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 49 minutes 47.30 seconds N. and long. 79 degrees 51 minutes 35.20 seconds W.

A1—0 to 3 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine through medium roots; few fine mica flakes; 10 percent subrounded quartz gravel; very strongly acid; abrupt smooth boundary.

A2—3 to 9 inches; brown (7.5YR 4/4) fine sandy loam; moderate fine granular structure; friable, nonsticky, nonplastic; common very fine through very coarse roots; few fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt—9 to 23 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine through very coarse roots; many faint clay films on all faces of peds; few fine mica flakes; very strongly acid; clear smooth boundary.

BCt—23 to 29 inches; red (2.5YR 4/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through medium roots; few faint clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual smooth boundary.

C1—29 to 60 inches; red (2.5YR 4/6) and yellowish brown (10YR 5/6) fine sandy loam; massive; very friable, nonsticky, nonplastic; few very fine through very coarse roots; common fine mica flakes; very strongly acid; gradual smooth boundary.

C2—60 to 74 inches; dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; very strongly acid; abrupt smooth boundary.

C3—74 to 80 inches; red (2.5YR 4/6), yellowish brown (10YR 5/6), and dark yellowish brown (10YR 4/6) sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Kandic horizon, 11 to 24 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few or common in the surface layer, subsurface layer, and subsoil and few to many in the substratum
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon (if it occurs):
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5

Chroma—6 or 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—2.5YR to 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Goblintown Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from graphitic schist and graphitic phyllite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 60 percent

Associated Soils

- Drapermill soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Littlejoe soils, which have redder hues and are deep to partially weathered bedrock; in similar landform positions
- Penhook soils, which have redder hues and are very deep to bedrock; in similar landform positions
- Strawfield soils, which have redder hues and are moderately deep to unweathered bedrock; in similar landform positions

Taxonomic Classification

Fine, mixed, subactive, mesic Humic Hapludults

Typical Pedon

Goblintown loam; located 3,750 feet south and 17 degrees east of the intersection of State Routes 623 and 712, in woodland, in the northern part of Patrick County, Virginia; Philpott Reservoir, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 48 minutes 43.00 seconds N. and long. 80 degrees 6 minutes 45.00 seconds W.

A—0 to 8 inches; very dark grayish brown (2.5Y 3/2) loam, grayish brown (2.5Y 5/2) dry; weak medium granular structure; friable, moderately sticky, moderately plastic; many fine through coarse roots; 4 percent subrounded gravel; very strongly acid; clear wavy boundary.

Bt1—8 to 12 inches; very dark grayish brown (2.5Y 3/2) clay loam; moderate fine subangular blocky structure; friable, very sticky, moderately plastic; many fine through coarse roots; few medium and coarse tubular pores; few faint clay films on vertical faces of peds; 4 percent subrounded gravel; very strongly acid; gradual wavy boundary.

Bt2—12 to 25 inches; dark brown (10YR 3/3) clay; moderate medium subangular blocky structure; friable, very sticky, moderately plastic; common fine through coarse roots; few medium and coarse tubular pores; few faint clay films on all faces of peds; few fine mica flakes; 2 percent subrounded gravel and 3 percent subangular channers; strongly acid; gradual wavy boundary.

Bt3/C—25 to 29 inches; B part is dark yellowish brown (10YR 3/4) clay loam; common medium prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable, very sticky, moderately plastic; few distinct clay films on all faces of peds; common fine through coarse roots; few fine mica flakes; C part is very dark gray (N 3/0) channery clay loam; massive; 11 percent subangular channers and 5 percent subangular parachanners; strongly acid; gradual irregular boundary.

C—29 to 36 inches; very dark gray (N 3/0) very parachannery silt loam; many coarse prominent dark yellowish brown (10YR 3/4) mottles; massive; friable, slightly sticky, moderately plastic; few fine through coarse roots; few fine mica flakes; 14 percent subangular channers and 25 percent subangular parachanners; moderately acid; gradual irregular boundary.

Cr—36 to 62 inches; moderately cemented graphitic schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 30 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: More than 40 inches
Content of mica flakes: None or few
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface and subsurface layers, 0 to 35 percent in the upper subsoil, and 0 to 60 percent in the lower subsoil and in the substratum

A or Ap horizon:
Hue—7.5YR to 5Y
Value—2 or 3
Chroma—1 to 4
Texture (fine-earth fraction)—very fine sandy loam, loam, or silt loam

BA horizon (if it occurs):
Hue—7.5YR to 5Y
Value—3 or 4
Chroma—1 to 4
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Hue—7.5YR to 5Y
Value—3 or 4
Chroma—1 to 4
Texture (fine-earth fraction)—clay loam, silty clay loam, clay, or silty clay

BC, B/C, C/B, or BCt horizon (if it occurs):
Hue—7.5YR to 5Y
Value—2 to 4
Chroma—1 to 6
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

C horizon:
Hue—7.5YR to 5Y
Value—2 to 4
Chroma—1 to 6
Texture (fine-earth fraction)—very fine sandy loam, loam, silt loam, clay loam, or silty clay loam

Hayesville Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks, and mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 45 percent

Associated Soils

- Ashe soils, which have less than 18 percent clay in the subsoil and are moderately deep to bedrock; in steeper landform positions
- Edneytown soils, which have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Edneyville soils, which have less than 18 percent clay in the subsoil; in steeper landform positions
- Peaks soils, which have less than 18 percent clay in the subsoil, have more than 35 percent rock fragments between a depth of 10 and 40 inches, and are moderately deep to bedrock; in steeper landform positions
- Sauratown soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Hayesville loam; located 950 feet south and 29 degrees west of the intersection of State Routes 634 and 635, in woodland, in the northern part of Franklin County, Virginia; Hardy, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 12 minutes 33.20 seconds N. and long. 79 degrees 48 minutes 0.00 seconds W.

A—0 to 9 inches; reddish brown (5YR 4/4) loam; weak fine granular structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; few fine mica flakes; 12 percent subangular quartz gravel; moderately acid; clear smooth boundary.
Bt—9 to 48 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, moderately plastic; common very fine and fine roots; common distinct clay films on all faces of peds; few fine mica flakes; 5 percent subangular quartz gravel; strongly acid; gradual wavy boundary.
BCt—48 to 54 inches; red (2.5YR 4/8) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few faint clay films on all faces of peds; few fine mica flakes; 5 percent subangular quartz gravel; strongly acid; gradual wavy boundary.
C—54 to 61 inches; red (2.5YR 4/8) loam; massive; friable, slightly sticky, slightly plastic; few fine mica flakes; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Kandic horizon, 11 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common above a depth of 40 inches and none to many below a depth of 40 inches

Reaction: Extremely acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent throughout the profile

A or Ap horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy clay loam or clay loam

C horizon:
Hue—2.5YR to 10YR or multicolored
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Hickoryknob Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 75 percent

Associated Soils

- Clifford soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Fairview soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Rhodhiss soils, which are very deep to bedrock; in similar landform positions
- Stott Knob soils, which are deep to unweathered bedrock; in similar landform positions
- Westfield soils, which have 35 to 60 percent clay in the subsoil and are deep to partially weathered bedrock; in similar and steeper landform positions
- Woolwine soils, which have 35 to 60 percent clay in the subsoil and are deep to unweathered bedrock; in similar and less steep landform positions

Taxonomic Classification

Fine-loamy, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Hickoryknob loam; located 7,200 feet north and 58 degrees east of the intersection of

State Routes 619 and 854, in woodland, in the southeastern part of Franklin County, Virginia; Gladehill, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 54 minutes 9.20 seconds N. and long. 79 degrees 45 minutes 51.70 seconds W.

A—0 to 4 inches; brown (10YR 4/3) loam; weak very fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; 5 percent subangular quartz gravel; extremely acid; clear smooth boundary.
Bt1—4 to 13 inches; brown (7.5YR 5/4) channery loam; weak very fine and fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through very coarse roots; many faint clay films on all faces of peds; few fine mica flakes; 15 percent subangular mica schist channers; extremely acid; clear smooth boundary.
Bt2—13 to 23 inches; yellowish red (5YR 4/6) channery clay loam; moderate very fine and fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through medium roots; many distinct clay films on all faces of peds; few fine mica flakes; 25 percent subangular mica schist channers; very strongly acid; clear wavy boundary.
Cr—23 to 36 inches; moderately cemented mica schist bedrock.
R—36 to 80 inches; indurated mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Extremely acid to strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam or clay loam

BC horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam or clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 or 5

Chroma—6 or 8
Texture (fine-earth fraction)—fine sandy loam or loam

Iotla Series

Physiographic province: Blue Ridge and Piedmont
Landform: Flood plains in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Colescreek soils, which are moderately well drained, have more than 35 percent base saturation, and are rarely flooded; in low stream terrace positions
- Comus soils, which are well drained; in similar landform positions
- Delanco soils, which have 18 to 35 percent clay in the subsoil and are rarely flooded; in low stream terrace positions
- Elsinboro soils, which have 18 to 35 percent clay in the subsoil, are well drained, and are rarely flooded; in low stream terrace positions
- Maggodee soils, which are moderately well drained; in similar landform positions

Taxonomic Classification

Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

Typical Pedon

Iotla sandy loam; located 1,650 feet north and 49 degrees west of the intersection of State Route 619 and the Franklin-Henry County line, in woodland, in the southeastern part of Franklin County, Virginia; Mountain Valley, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 48 minutes 33.90 seconds N. and long. 79 degrees 44 minutes 45.10 seconds W.

A—0 to 3 inches; dark brown (10YR 3/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; common very fine and fine tubular pores; few fine mica flakes; 2 percent subrounded quartz gravel; moderately acid; abrupt smooth boundary.

Bw1—3 to 8 inches; brown (7.5YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine through very coarse roots; common very fine and fine tubular pores; few fine mica flakes; 2 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Bw2—8 to 13 inches; brown (10YR 5/3) fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common very fine through medium roots; common very fine and fine tubular pores; few fine mica flakes; 2 percent subrounded quartz gravel; strongly acid; abrupt smooth boundary.

Bw3—13 to 19 inches; brown (10YR 5/3) fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through medium roots; common very fine and fine tubular pores; common fine irregular dark yellowish brown (10YR 4/6) masses of oxidized iron and many medium and coarse irregular grayish brown (10YR 5/2) iron depletions; few fine mica flakes; 1 percent subrounded charcoal gravel and 2 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Bw4—19 to 23 inches; light olive brown (2.5Y 5/3) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few very fine and fine roots;

common very fine and fine tubular pores; common medium irregular strong brown (7.5YR 4/6) masses of oxidized iron; few fine mica flakes; 2 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Bg—23 to 31 inches; gray (2.5Y 5/1) fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine and fine roots; common very fine and fine tubular pores; few medium irregular moderately cemented yellowish red (5YR 4/6) iron-manganese concretions; common coarse and very coarse irregular brownish yellow (10YR 6/8) and many coarse irregular olive brown (2.5Y 4/4) masses of oxidized iron; few fine mica flakes; 2 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Cg—31 to 43 inches; gray (2.5Y 5/1) sandy loam; massive; very friable, nonsticky, nonplastic; few fine mica flakes; 10 percent rounded quartz gravel; strongly acid; clear smooth boundary.

C—43 to 80 inches; light yellowish brown (10YR 6/4) extremely cobbly loamy sand; single grain; loose, nonsticky, nonplastic; few fine mica flakes; 30 percent subrounded quartz cobbles and 40 percent subrounded quartz gravel; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 10 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few to many
Reaction: Strongly acid or moderately acid, except in limed areas
Rock fragments: 0 to 10 percent above a depth of 40 inches and 35 to 80 percent below a depth of 40 inches
Redoximorphic features: Shades of red, brown, yellow, or gray in the Bw, Bg, C, Cg, 2C, or 2Cg horizon

A or Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 or 4
Chroma—2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bg horizon:
Hue—7.5YR to 2.5Y
Value—3 to 7
Chroma—0 to 2
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Cg or 2Cg horizon:
Hue—10YR to 5Y
Value—3 to 6
Chroma—1 or 2
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

C or 2C horizon:
Hue—10YR or 2.5Y
Value—4 to 6

Chroma—3 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Jackland Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Bluemount soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to unweathered bedrock, and are well drained; in similar and steeper landform positions
- Minnieville soils, which are well drained and have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which are moderately deep to partially weathered bedrock and are well drained; in similar landform positions
- Orenda soils, which are well drained; in similar landform positions
- Redbrush soils, which are moderately deep to unweathered bedrock and are well drained; in similar landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil and are shallow to partially weathered bedrock; in similar and steeper landform positions
- Spriggs soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to partially weathered bedrock, and are well drained; in similar and steeper landform positions

Taxonomic Classification

Fine, smectitic, mesic Aquic Hapludalfs

Typical Pedon

Jackland silt loam; located 7,300 feet south and 25 degrees east of the intersection of State Routes 40 and 673, in hayland, in the eastern part of Franklin County, Virginia; Penhook, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 4.50 seconds N. and long. 79 degrees 43 minutes 59.70 seconds W.

A—0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; weak very fine and fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; 2 percent subrounded amphibolite gravel; moderately acid; clear smooth boundary.

BA—6 to 14 inches; light olive brown (2.5Y 5/3) silt loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common fine and medium irregular light yellowish brown (2.5Y 6/3) and common coarse irregular light yellowish brown (2.5Y 6/3) iron depletions; common medium and coarse irregular moderately cemented dark brown (10YR 3/3) iron-manganese concretions; 2 percent subrounded amphibolite gravel; moderately acid; abrupt smooth boundary.

Bt—14 to 23 inches; olive brown (2.5Y 4/3) clay; moderate fine and medium angular blocky structure; extremely firm, very sticky, very plastic; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; few fine and medium irregular dark yellowish brown (10YR 4/6) masses of oxidized iron and common coarse irregular dark grayish brown (2.5Y 4/2) iron depletions; slightly acid; clear smooth boundary.

Btg1—23 to 40 inches; grayish brown (2.5Y 5/2) clay; moderate fine and medium angular blocky structure; extremely firm, very sticky, very plastic; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; common coarse irregular yellowish red (5YR 4/6) masses of oxidized iron and many coarse irregular gray (2.5Y 5/1) iron depletions; neutral; clear smooth boundary.

Btg2—40 to 48 inches; gray (2.5Y 5/1) clay; moderate fine and medium angular blocky structure; extremely firm, very sticky, very plastic; few distinct slickensides (pedogenic) and many prominent clay films on all faces of peds; common coarse irregular yellowish red (5YR 4/6) masses of oxidized iron; neutral; clear smooth boundary.

Cg1—48 to 53 inches; gray (5Y 5/1) sandy clay; massive; very firm, moderately sticky, moderately plastic; few fine and medium irregular dark yellowish brown (10YR 4/6) masses of oxidized iron; neutral; clear smooth boundary.

Cg2—53 to 63 inches; greenish gray (5GY 5/1) sandy clay loam; massive; firm, slightly sticky, slightly plastic; few fine and medium irregular brown (7.5YR 4/3) masses of oxidized iron; neutral; clear smooth boundary.

Cg3—63 to 80 inches; white (5Y 8/1), very dark gray (5Y 3/1), and strong brown (7.5YR 5/8) loam; massive; friable, slightly sticky, slightly plastic; slightly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None or few
Reaction: Strongly acid to neutral, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum
Redoximorphic features: Shades of red, brown, yellow, or gray in the BA, Bt, Btg, BC, BCg, C, or Cg horizon

A or Ap horizon:
Hue—10YR to 5Y
Value—3 to 6
Chroma—2 to 6
Texture (fine-earth fraction)—loam or silt loam

AB or BA horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Hue—7.5YR to 5Y
Value—4 to 6
Chroma—3 to 6
Texture (fine-earth fraction)—clay loam, silty clay loam, silty clay, or clay

Btg horizon:
Hue—7.5YR to 5Y
Value—4 to 6

Chroma—1 or 2
Texture (fine-earth fraction)—clay loam, silty clay loam, silty clay, or clay

BCg or Cg horizon:
Hue—10YR to 5Y and 5GY or multicolored
Value—4 to 6
Chroma—1 or 2
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, clay loam, sandy clay, or clay

BC horizon (if it occurs):
Hue—7.5YR to 5Y
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

C horizon (if it occurs):
Hue—7.5YR to 5Y or multicolored
Value—3 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Littlejoe Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from phyllite and schist
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Deep
Slope range: 8 to 25 percent

Associated Soils

- Drapermill soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Goblintown soils, which are moderately deep to partially weathered bedrock and have browner hues; in similar landform positions
- Penhook soils, which are very deep to bedrock; in similar landform positions
- Strawfield soils, which are moderately deep to unweathered bedrock; in similar landform positions

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Littlejoe loam; located 2,300 feet south and 76 degrees east of the intersection of State Routes 40 and 890, in a road cut adjacent to planted pine, in the eastern part of Franklin County, Virginia; Sandy Level, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 39.00 seconds N. and long. 79 degrees 36 minutes 52.10 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) loam; moderate fine granular structure; friable, nonsticky, nonplastic; common very fine through medium roots; few very fine mica flakes; 2 percent subangular phyllite channers; very strongly acid; clear smooth boundary.

Bt1—8 to 20 inches; strong brown (7.5YR 5/8) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through medium roots; common faint clay films on all faces of peds; few very fine mica flakes; 2 percent subangular phyllite channers; very strongly acid; clear smooth boundary.

Bt2—20 to 28 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, slightly plastic; common distinct clay films on all faces of peds; few very fine mica flakes; 2 percent subangular phyllite channers; very strongly acid; gradual smooth boundary.

Bt3—28 to 45 inches; red (10R 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, slightly plastic; common distinct clay films on all faces of peds; few very fine mica flakes; 11 percent subangular phyllite channers; very strongly acid; abrupt smooth boundary.

Cr—45 to 59 inches; moderately cemented phyllite bedrock.

R—59 to 80 inches; indurated phyllite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 40 inches
Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum
Other characteristics: The particle-size control section averages more than 30 percent silt, more than 40 percent silt plus very fine sand, and less than 15 percent sand coarser than very fine sand

A or Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—10R to 5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam, clay, or silty clay

BC horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loam

Comments

The Littlejoe series does not allow 7.5YR hues in the Bt horizon. This pedon, which is representative of the survey area, has browner hues in individual subsoil horizons.

Maggodee Series

Physiographic province: Blue Ridge and Piedmont
Landform: Flood plains in river valleys
Parent material: Alluvium from metamorphic and igneous materials
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Colescreek soils, which have 18 to 35 percent clay in the subsoil, have more than 35 percent base saturation, and are rarely flooded; in low stream terrace positions
- Comus soils, which are well drained; in similar landform positions
- Delanco soils, which have 18 to 35 percent clay in the subsoil, are somewhat poorly drained, and are rarely flooded; in low stream terrace positions
- Elsinboro soils, which have 18 to 35 percent clay in the subsoil and are rarely flooded; in low stream terrace positions
- Iotla soils, which are somewhat poorly drained; in similar landform positions

Taxonomic Classification

Coarse-loamy, mixed, superactive, mesic Oxyaquic Dystrudepts

Typical Pedon

Maggodee fine sandy loam; located 5,550 feet north and 73 degrees east of the intersection of State Routes 602 and 751, in a hayfield, in the southwestern part of Franklin County, Virginia; Ferrum, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 57 minutes 5.40 seconds N. and long. 80 degrees 6 minutes 17.60 seconds W.

Ap1—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; common very fine and fine tubular pores; few fine mica flakes; 3 percent subrounded quartz gravel; moderately acid; clear smooth boundary.

Ap2—4 to 13 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable, nonsticky, nonplastic; few very fine and fine roots; common very fine and fine tubular pores; few fine mica flakes; 3 percent subrounded quartz gravel; moderately acid; clear smooth boundary.

Bw1—13 to 20 inches; brown (10YR 4/3) fine sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine and fine roots; few very fine and fine tubular pores; common medium irregular brown (10YR 5/3) iron depletions and common medium and coarse irregular dark yellowish brown (10YR 4/6) masses of oxidized iron; few fine mica flakes; 3 percent subrounded quartz gravel; strongly acid; abrupt smooth boundary.

Bw2—20 to 30 inches; brown (10YR 5/3) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common medium and coarse irregular dark brown (7.5YR 3/4) masses of oxidized iron and common medium irregular moderately cemented very dark gray (10YR 3/1) iron-manganese concretions; few fine mica flakes; 3 percent subrounded quartz gravel; strongly acid; gradual smooth boundary.

Bg1—30 to 34 inches; dark gray (10YR 4/1) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and coarse irregular dark yellowish brown (10YR 3/6) and common medium and coarse irregular dark yellowish brown (10YR 4/6) masses of oxidized iron; few fine mica flakes; 3 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

Bg2—34 to 42 inches; dark gray (10YR 4/1) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and coarse irregular dark yellowish brown (10YR 4/6) masses of oxidized iron; few fine mica flakes; 3 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

BCg—42 to 48 inches; dark gray (10YR 4/1) loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and coarse irregular dark yellowish brown (10YR 3/6) and yellowish brown (10YR 5/6) masses of oxidized; few fine mica flakes; 3 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Cg1—48 to 54 inches; dark gray (N 4/0) loam; massive; friable, slightly sticky, slightly plastic; few fine mica flakes; 3 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Cg2—54 to 60 inches; very dark gray (10YR 3/1) sandy loam; massive; friable, slightly sticky, slightly plastic; few fine mica flakes; 7 percent subrounded quartz gravel; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 15 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few to many
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent above a depth of 40 inches and 0 to 35 percent below a depth of 40 inches
Redoximorphic features: Shades of red, brown, yellow, or gray in the Bw, Bg, BC, BCg, C, Cg, or 2C horizon

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

Bw horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or silt loam

Bg or BCg horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or silt loam

C or 2C horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Cg horizon:
Hue—10YR or 2.5Y or neutral

Value—3 to 6
Chroma—1 or 2
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Minnieville Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 45 percent

Associated Soils

- Bluemount soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to unweathered bedrock, and have more than 60 percent base saturation; in similar and steeper landform positions
- Clifford soils, which have felsic geology; in similar landform positions
- Jackland soils, which are somewhat poorly drained and have more than 35 percent base saturation; in similar landform positions
- Mirerock soils, which are moderately deep to partially weathered bedrock and have more than 60 percent base saturation; in similar landform positions
- Orenda soils, which have 35 to 60 percent base saturation; in similar landform positions
- Redbrush soils, which are moderately deep to unweathered bedrock and have more than 60 percent base saturation; in similar landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil, are shallow to partially weathered bedrock, and have more than 60 percent base saturation; in similar and steeper landform positions
- Spriggs soils, which have 18 to 35 percent clay in the subsoil, have 35 to 60 percent base saturation, and are moderately deep to partially weathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Hapludults

Typical Pedon

Minnieville loam; located 10,100 feet north and 21 degrees west of the intersection of State Routes 618 and 632, in woodland, in the southern part of Franklin County, Virginia; Snow Creek, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 50 minutes 0.60 second N. and long. 79 degrees 51 minutes 23.10 seconds W.

A—0 to 4 inches; reddish brown (5YR 4/4) loam; moderate fine granular structure; very friable, slightly hard, nonplastic; many very fine through medium roots; 5 percent subrounded quartz gravel; strongly acid; clear smooth boundary.
BA—4 to 8 inches; dark red (2.5YR 3/6) clay loam; moderate very fine and fine subangular blocky structure; firm, nonsticky, slightly plastic; many very fine and fine and few very coarse roots; 2 percent subrounded quartz gravel; strongly acid; abrupt smooth boundary.
Bt1—8 to 17 inches; red (10R 4/6) clay; strong fine and medium angular blocky structure; very firm, very sticky, moderately plastic; common very fine through

medium roots; many distinct clay films on all faces of peds; strongly acid; clear smooth boundary.

Bt2—17 to 32 inches; red (10R 4/6) clay; strong fine and medium angular blocky structure; very firm, moderately sticky, moderately plastic; few very fine roots; many distinct clay films on all faces of peds; strongly acid; gradual smooth boundary.

Bt3—32 to 53 inches; red (10R 4/6) clay; moderate fine and medium subangular blocky structure; very firm, moderately sticky, moderately plastic; many distinct clay films on all faces of peds; strongly acid; gradual smooth boundary.

BCt—53 to 64 inches; red (2.5YR 5/6) clay loam; weak fine and medium subangular blocky structure; firm, nonsticky, slightly plastic; common distinct clay films on all faces of peds; few very fine mica flakes; 10 percent subrounded hornblende gneiss gravel; strongly acid; gradual smooth boundary.

BC—64 to 81 inches; red (2.5YR 5/6) clay loam; weak fine subangular blocky structure; firm, nonsticky, slightly plastic; few very fine mica flakes; 10 percent subrounded hornblende gneiss gravel; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 15 to 60 inches or more

Depth to soft bedrock: More than 60 inches

Depth to hard bedrock: More than 60 inches

Content of mica flakes: None to common

Reaction: Strongly acid to moderately acid, except in limed areas

Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:

Hue—5YR or 7.5YR
Value—3 or 4
Chroma—3 to 6
Texture (fine-earth fraction)—loam or clay loam

AB or BA horizon (if it occurs):

Hue—2.5YR to 7.5YR
Value—3 or 4
Chroma—4 or 6
Texture (fine-earth fraction)—loam or clay loam

Bt horizon:

Hue—10R to 5YR; 5YR colors are restricted to individual subhorizons
Value—3 or 4
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon:

Hue—2.5YR or 5YR
Value—3 to 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam

C horizon (if it occurs):

Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—loam or clay loam

Mirerock Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 2 to 15 percent

Associated Soils

- Bluemount soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Jackland soils, which are somewhat poorly drained and very deep to bedrock; in similar landform positions
- Minnieville soils, which are very deep to bedrock and have less than 35 percent base saturation; in similar and older landform positions
- Orenda soils, which are very deep to bedrock and have 35 to 60 percent base saturation; in similar and older landform positions
- Redbrush soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil and are shallow to partially weathered bedrock; in similar and steeper landform positions
- Spriggs soils, which have 18 to 35 percent clay in the subsoil and 35 to 60 percent base saturation; in similar and steeper landform positions

Taxonomic Classification

Fine, smectitic, mesic Typic Hapludalfs

Typical Pedon

Mirerock gravelly loam; located 5,700 feet south and 30 degrees east of the intersection of State Routes 40 and 673, in woodland, in the eastern part of Franklin County, Virginia; Penhook, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 20.80 seconds N. and long. 79 degrees 44 minutes 3.00 seconds W.

A—0 to 6 inches; dark grayish brown (2.5Y 4/2) gravelly loam; weak fine granular structure; friable, nonsticky, nonplastic; common very fine through coarse roots; common coarse black (10YR 2/1) iron-manganese concretions; 4 percent subrounded amphibolite cobbles and 12 percent subrounded amphibolite gravel; strongly acid; abrupt smooth boundary.

BA—6 to 17 inches; light olive brown (2.5Y 5/3) loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine through medium roots; many coarse black (10YR 2/1) iron-manganese concretions; 2 percent subrounded amphibolite cobbles and 5 percent subrounded amphibolite gravel; moderately acid; clear smooth boundary.

Bt1—17 to 23 inches; yellowish brown (10YR 5/6) clay; moderate medium and coarse angular blocky structure; extremely firm, very sticky, very plastic; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; common coarse black (10YR 2/1) iron-manganese concretions; few very fine mica flakes; moderately acid; clear smooth boundary.

Bt2—23 to 35 inches; olive (5Y 4/3) and dark yellowish brown (10YR 4/6) clay; moderate medium and coarse angular blocky structure; extremely firm, very sticky, very plastic; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; few very fine mica flakes; moderately acid; abrupt wavy boundary.

Cr—35 to 49 inches; moderately cemented amphibolite bedrock.

R—49 to 80 inches; indurated amphibolite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Content of mica flakes: None or few
Reaction: Moderately acid to slightly alkaline, except in limed areas
Rock fragments: 10 to 35 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

AB or BA horizon:
Hue—2.5Y
Value—4 or 5
Chroma—3
Texture (fine-earth fraction)—loam or silt loam

Bt horizon:
Hue—7.5YR to 5Y
Value—4 or 5
Chroma—3 to 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 8
Texture (fine-earth fraction)—clay loam

C horizon (if it occurs):
Hue—7.5YR to 5Y or multicolored
Value—4 or 5
Chroma—2 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, or clay loam

Myersville Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Deep
Slope range: 8 to 95 percent

Associated Soils

- Walnut soils, which have less than 18 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar landform positions

Taxonomic Classification

Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Myersville loam; located 5,650 feet north and 31 degrees west of the intersection of State Routes 793 and 792, in woodland, in the southwestern part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 55 minutes 51.20 seconds N. and long. 80 degrees 11 minutes 0.30 seconds W.

A—0 to 4 inches; dark yellowish brown (10YR 4/4) loam; moderate fine granular structure; friable, nonsticky, nonplastic; common very fine through coarse roots; 5 percent subangular amphibolite channers; strongly acid; clear smooth boundary.

BA—4 to 8 inches; strong brown (7.5YR 5/6 and 4/6) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through coarse roots; 7 percent subangular amphibolite channers; strongly acid; clear smooth boundary.

Bt—8 to 21 inches; strong brown (7.5YR 5/6) and yellowish red (5YR 5/8) channery clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few faint clay films on all faces of peds and on rock fragments; 17 percent subangular amphibolite channers; moderately acid; gradual smooth boundary.

BCt—21 to 25 inches; yellowish brown (10YR 5/6) and yellowish red (5YR 5/6) channery loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few faint clay films on all faces of peds and on rock fragments; 10 percent subangular amphibolite parachanners and 17 percent subangular amphibolite channers; moderately acid; gradual smooth boundary.

Ct—25 to 58 inches; reddish yellow (7.5YR 6/8) and dark olive brown (2.5Y 3/3) parachannery loam; massive; friable, nonsticky, nonplastic; few faint clay films on rock fragments; 10 percent subangular amphibolite channers and 20 percent subangular amphibolite parachanners; moderately acid; clear wavy boundary.

Cr—58 to 70 inches; moderately cemented amphibolite bedrock.

R—70 to 80 inches; indurated amphibolite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None or few
Reaction: Strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—7.5YR or 10YR
Value—2 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—loam or silt loam

AB or BA horizon:
Hue—7.5YR or 10YR
Value—4 to 6

Chroma—3 to 8
Texture (fine-earth fraction)—loam or silt loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

BC or BCt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

C or Ct horizon:
Hue—7.5YR to 2.5Y or multicolored
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loam or silt loam

Orenda Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 25 percent

Associated Soils

- Bluemount soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to unweathered bedrock, and have more than 60 percent base saturation; in similar and steeper landform positions
- Jackland soils, which are somewhat poorly drained; in similar landform positions
- Minnieville soils, which have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which are moderately deep to partially weathered bedrock and have more than 60 percent base saturation; in similar landform positions
- Redbrush soils, which are moderately deep to unweathered bedrock and have more than 60 percent base saturation; in similar landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil, are shallow to partially weathered bedrock, and have more than 60 percent base saturation; in similar and steeper landform positions
- Spriggs soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Orenda loam; located 2,325 feet north and 33 degrees east of the intersection of State Routes 903 and 760, in an apple orchard, in the southwestern part of Franklin County, Virginia; Philpott Reservoir, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 50 minutes 54.80 seconds N. and long. 80 degrees 2 minutes 39.00 seconds W.

Ap—0 to 6 inches; brown (7.5YR 4/4) loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; common fine and few very fine roots; common fine and medium black (10YR 2/1) iron-manganese concretions; 6 percent subrounded quartz gravel and 6 percent subrounded hornblende gneiss gravel; strongly acid; abrupt smooth boundary.

Bt1—6 to 11 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; few very fine roots; many distinct clay films on all faces of peds; few fine and medium black (10YR 2/1) iron-manganese concretions; 2 percent subrounded hornblende gneiss gravel and 3 percent subrounded quartz gravel; moderately acid; clear wavy boundary.

Bt2—11 to 25 inches; yellowish red (5YR 4/6) clay; moderate fine subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; common distinct clay films on all faces of peds; few fine and medium black (10YR 2/1) iron-manganese concretions; 2 percent subrounded quartz gravel, 2 percent subrounded hornblende gneiss gravel, and 10 percent subrounded hornblende gneiss paragravel; moderately acid; clear wavy boundary.

C—25 to 62 inches; yellowish brown (10YR 5/6), strong brown (7.5YR 5/8 and 5/6), yellowish brown (10YR 5/6), grayish brown (2.5Y 5/2), and black (10YR 2/1) loam; massive; friable, slightly sticky, slightly plastic; few very fine roots; few fine mica flakes; moderately acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Strongly acid to slightly acid, except in limed areas
Rock fragments: 0 to 20 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—10YR to 5Y
Value—3 to 5
Chroma—2 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—loam or clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon (if it occurs):
Hue—5YR to 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—clay loam

C horizon:
Hue—5YR to 10YR or multicolored
Value—4 or 5
Chroma—1 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

Peaks Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks
Drainage class: Somewhat excessively drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope range: 8 to 95 percent

Associated Soils

- Ashe soils, which have less than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Edneytown soils, which have 18 to 35 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Edneyville soils, which have less than 35 percent rock fragments between a depth of 10 and 40 inches and are very deep to bedrock; in similar landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Sauratown soils, which have 18 to 35 percent clay in the subsoil; in similar and less steep landform positions

Taxonomic Classification

Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Peaks gravelly loam; located 1,950 feet north and 63 degrees east of the intersection of State Routes 602 and 643, in woodland, in the northwestern part of Franklin County, Virginia; Callaway, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 6 minutes 57.30 seconds N. and long. 80 degrees 5 minutes 24.80 seconds W.

A—0 to 5 inches; brown (10YR 4/3) gravelly loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine through medium and few coarse and very coarse roots; 16 percent angular granitic gneiss gravel; very strongly acid; clear smooth boundary.

BA—5 to 12 inches; dark yellowish brown (10YR 4/4) gravelly loam; moderate medium granular structure parting to weak fine subangular blocky; friable, nonsticky, nonplastic; many very fine through medium and few coarse and very coarse roots; 20 percent angular granitic gneiss gravel; very strongly acid; clear smooth boundary.

Bw—12 to 25 inches; dark yellowish brown (10YR 4/6) very cobbly loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common very fine through coarse roots; 16 percent angular granitic gneiss cobbles and 20 percent angular granitic gneiss gravel; very strongly acid; abrupt wavy boundary.

C—25 to 34 inches; dark yellowish brown (10YR 4/4) very cobbly loam; massive; friable, nonsticky, nonplastic; few very fine and fine roots; 28 percent angular

granitic gneiss cobbles and 30 percent angular granitic gneiss gravel; very strongly acid; clear irregular boundary.
R—34 to 80 inches; indurated granitic gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 10 to 35 inches
Depth to soft bedrock: 20 to 40 inches (where present)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None or few
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 10 to 35 percent in the surface layer, 10 to 55 percent in the subsurface layer, 30 to 60 percent in the subsoil, and 35 to 60 percent in the substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Penhook Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from phyllite and schist
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 60 percent

Associated Soils

- Drapermill soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in steeper landform positions
- Goblintown soils, which are moderately deep to partially weathered bedrock and have browner hues; in similar landform positions
- Littlejoe soils, which are deep to bedrock; in similar landform positions

- Strawfield soils, which are moderately deep to unweathered bedrock; in similar landform positions

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Penhook loam; located 6,350 feet south and 12 degrees west of the intersection of State Routes 40 and 946, in woodland, in the eastern part of Franklin County, Virginia; Penhook, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 0.90 second N. and long. 79 degrees 38 minutes 27.00 seconds W.

A—0 to 6 inches; brown (7.5YR 4/4) loam; weak fine granular structure; friable, slightly sticky, slightly plastic; few very fine and fine and common medium and coarse roots; 7 percent subrounded quartz gravel and 7 percent subangular phyllite channers; very strongly acid; clear smooth boundary.

Bt1—6 to 9 inches; yellowish red (5YR 5/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through coarse roots; common faint clay films on all faces of peds; 2 percent subrounded quartz gravel and 3 percent subangular phyllite channers; very strongly acid; clear wavy boundary.

Bt2—9 to 26 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; few very fine through coarse roots; common distinct clay films on all faces of peds; 1 percent subangular phyllite channers and 1 percent subrounded quartz gravel; very strongly acid; gradual wavy boundary.

Bt3—26 to 43 inches; red (2.5YR 4/8) clay; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common faint clay films on all faces of peds; 6 percent subangular phyllite channers and 6 percent subrounded quartz gravel; very strongly acid; gradual wavy boundary.

BCt—43 to 52 inches; red (2.5YR 5/6) parachannery clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common faint clay films on all faces of peds; 30 percent subangular phyllite parachanners; very strongly acid; clear wavy boundary.

C—52 to 63 inches; reddish yellow (7.5YR 6/6), yellowish red (5YR 5/6), dark red (2.5YR 3/6), and red (2.5YR 4/8) loam; massive; friable, slightly sticky, slightly plastic; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 55 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Extremely acid to strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum
Other characteristics: The particle-size control section averages more than 30 percent silt, more than 40 percent silt plus very fine sand, and less than 15 percent sand coarser than very fine sand

A or Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam

Bt horizon:
Hue—2.5YR or 5YR; some pedons have hue of 7.5YR or 10YR in the lower Bt horizon
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam, silty clay loam, clay, or silty clay

BC or BCt horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

C horizon:
Hue—2.5YR to 10YR or multicolored
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—loam or silt loam

Porters Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist, mica gneiss, and amphibolite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Deep
Slope range: 25 to 95 percent

Associated Soils

- Trimont soils, which are very deep to bedrock and have more development; in similar landform positions

Taxonomic Classification

Fine-loamy, isotic, mesic Humic Dystrudepts

Typical Pedon

Porters loam; located 8,600 feet north and 46 degrees east of the intersection of State Routes 793 and 792, in woodland, in the southwestern part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 56 minutes 2.70 seconds N. and long. 80 degrees 9 minutes 7.70 seconds W.

A—0 to 10 inches; dark brown (10YR 3/3) loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; few fine mica flakes; 5 percent subangular mica schist channers; strongly acid; clear smooth boundary.

Bw—10 to 21 inches; brown (10YR 4/3) fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; common fine mica flakes; 5 percent subangular mica schist channers; strongly acid; gradual smooth boundary.

C—21 to 43 inches; dark yellowish brown (10YR 4/6), dark brown (10YR 3/3), and yellowish brown (10YR 5/6) fine sandy loam; massive; very friable, nonsticky, nonplastic; common very fine and fine through very coarse roots; common fine mica flakes; 5 percent subangular mica schist channers; very strongly acid; clear wavy boundary.

Cr—43 to 45 inches; moderately cemented mica schist bedrock.

R—45 to 80 inches; indurated mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 6 to 40 inches
Depth to soft bedrock: 40 to 60 inches (where present)
Depth to hard bedrock: 40 to 60 inches
Content of mica flakes: Few or common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—1 to 3
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

AB or BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

BC horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Comments

The Porters soils in this survey area are considered taxadjuncts to the series. They have a dark surface layer (umbric epipedon) and are Humic Dystrudepts.

Redbrush Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Low

Depth class: Moderately deep
Slope range: 2 to 25 percent

Associated Soils

- Bluemount soils, which have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Jackland soils, which are somewhat poorly drained and are very deep to bedrock; in similar landform positions
- Minnieville soils, which are very deep to bedrock and have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which are moderately deep to partially weathered bedrock; in similar landform positions
- Orenda soils, which are very deep to bedrock and have 35 to 60 percent base saturation; in similar and older landform positions
- Siloam soils, which have less than 35 percent clay in the subsoil and are shallow to partially weathered bedrock; in similar and steeper landform positions
- Spriggs soils, which have 18 to 35 percent clay in the subsoil, are moderately deep to partially weathered bedrock, and have 35 to 60 percent base saturation; in similar and steeper landform positions

Taxonomic Classification

Fine, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Redbrush loam; located 5,800 feet south and 19 degrees east of the intersection of State Routes 40 and 673, in planted pine, in the eastern part of Franklin County, Virginia; Penhook, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 14.80 seconds N. and long. 79 degrees 44 minutes 15.40 seconds W.

A—0 to 5 inches; very dark grayish brown (2.5Y 3/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; common very fine through coarse roots; common coarse irregular moderately cemented dark brown (7.5YR 3/2) iron-manganese concretions; 5 percent subrounded amphibolite cobbles and 5 percent subrounded amphibolite gravel; strongly acid; clear smooth boundary.

BA—5 to 12 inches; olive brown (2.5Y 4/3) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through coarse roots; common coarse irregular moderately cemented dark brown (7.5YR 3/2) iron-manganese concretions; 4 percent subrounded amphibolite gravel and 10 percent subrounded amphibolite cobbles; moderately acid; clear smooth boundary.

Bt1—12 to 20 inches; olive brown (2.5Y 4/4) clay; moderate medium and coarse angular blocky structure; extremely firm, very sticky, very plastic; few very fine roots; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; 5 percent subrounded amphibolite gravel and 5 percent subrounded amphibolite cobbles; slightly acid; clear smooth boundary.

Bt2—20 to 23 inches; olive brown (2.5Y 4/3) clay; moderate medium and coarse angular blocky structure; extremely firm, very sticky, very plastic; few very fine roots; few distinct slickensides (pedogenic) and many distinct clay films on all faces of peds; 3 percent subrounded amphibolite gravel; slightly acid; clear smooth boundary.

C/Bt3—23 to 26 inches; olive brown (2.5Y 4/3), light olive brown (2.5Y 5/6), and very dark grayish brown (2.5Y 3/2) silt loam (C part) and clay (Bt part); massive; friable, slightly sticky, slightly plastic; common distinct clay films on all faces of peds; slightly acid; clear wavy boundary.

C—26 to 30 inches; olive brown (2.5Y 4/3), light olive brown (2.5Y 5/6), and very dark

grayish brown (2.5Y 3/2) silt loam; massive; friable, nonsticky, nonplastic; slightly acid; clear wavy boundary.
Cr—30 to 38 inches; moderately cemented amphibolite bedrock.
R—38 to 80 inches; indurated amphibolite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None or few
Reaction: Strongly acid to slightly acid in the upper horizons and moderately acid to slightly alkaline in the lower horizons, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—2 or 3
Texture (fine-earth fraction)—loam or silt loam

AB or BA horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 or 4
Texture (fine-earth fraction)—loam or silt loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 8
Texture (fine-earth fraction)—clay loam or clay

BC or BCt horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 8
Texture (fine-earth fraction)—clay loam

Bt/C or C/Bt horizon:
Color (Bt part)—similar to Bt horizon
Color (C part)—similar to C horizon
Texture (Bt part)—similar to Bt horizon
Texture (C part)—similar to C horizon

C horizon:
Hue—7.5YR to 5Y or multicolored
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam, loam, silt loam, or clay loam

Rhodhiss Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills

Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 75 percent

Associated Soils

- Clifford soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Fairview soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Hickoryknob soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Stott Knob soils, which are moderately deep to partially weathered bedrock; in similar landform positions
- Westfield soils, which have 35 to 60 percent clay in the subsoil and are deep to partially weathered bedrock; in similar and steeper landform positions
- Woolwine soils, which have 35 to 60 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar and less steep landform positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Rhodhiss loam; located 250 feet north and 54 degrees east of the intersection of State Route 619 and the Franklin-Henry County line, in woodland, in the southeastern part of Franklin County, Virginia; Mountain Valley, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 48 minutes 24.90 seconds N. and long. 79 degrees 44 minutes 27.80 seconds W.

A—0 to 3 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine through medium roots; few fine mica flakes; 6 percent subrounded quartz gravel and 6 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

BA—3 to 5 inches; yellowish brown (10YR 5/6) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine through medium roots; few fine mica flakes; 3 percent subrounded quartz gravel and 6 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

Bt1—5 to 20 inches; strong brown (7.5YR 5/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through very coarse roots; common coarse tubular and common very coarse tubular pores; common faint clay films on all faces of peds; few fine mica flakes; 1 percent subrounded quartz gravel and 2 percent subangular mica schist channers; very strongly acid; gradual smooth boundary.

Bt2—20 to 30 inches; red (2.5YR 5/8) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through very coarse roots; few faint clay films on all faces of peds; few fine mica flakes; 1 percent subangular mica schist channers and 2 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

BCt—30 to 38 inches; yellowish red (5YR 5/8) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; few faint clay films on all faces of peds; few fine mica flakes; 1 percent subangular mica schist channers and 2 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

Ct—38 to 60 inches; brownish yellow (10YR 6/8) parachannery sandy loam; massive;

very friable, nonsticky, nonplastic; common prominent clay bridges between sand grains; common fine and medium mica flakes; 2 percent subrounded quartz gravel and 3 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

C—60 to 80 inches; strong brown (7.5YR 5/6), brownish yellow (10YR 6/8), red (2.5YR 5/8), and yellowish red (5YR 5/8) loamy sand; massive; very friable, nonsticky, nonplastic; few fine mica flakes; 2 percent subrounded quartz gravel and 3 percent subangular mica schist channers; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

BA or AB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam or clay loam

BC or BCt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—fine sandy loam, loam, or clay loam

Ct or C horizon:
Hue—2.5YR to 10YR or multicolored
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Sauratown Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, and other resistant rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Moderately deep
Slope range: 8 to 95 percent

Associated Soils

- Ashe soils, which have less than 18 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Edneytown soils, which are very deep to bedrock; in similar landform positions
- Edneyville soils, which have less than 18 percent clay in the subsoil and are very deep to bedrock; in similar and steeper landform positions
- Hayesville soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Peaks soils, which have less than 18 percent clay in the subsoil, have more than 35 percent rock fragments between a depth of 10 and 40 inches, and are moderately deep to unweathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine-loamy, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Sauratown gravelly loam; located 5,550 feet south and 22 degrees west of the intersection of State Routes 613 and 606, in woodland, in the northwestern part of Franklin County, Virginia; Bent Mountain, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 8 minutes 2.10 seconds N. and long. 80 degrees 1 minute 10.70 seconds W.

A—0 to 3 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine through very coarse roots; 5 percent subrounded granitic gneiss cobbles and 12 percent subrounded granitic gneiss gravel; very strongly acid; clear smooth boundary.

Bt1—3 to 8 inches; dark yellowish brown (10YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many very fine and fine, many medium and coarse, and many very coarse roots; few faint clay films on all faces of peds; 3 percent subrounded granitic gneiss cobbles and 7 percent subrounded granitic gneiss gravel; very strongly acid; clear smooth boundary.

Bt2—8 to 26 inches; strong brown (7.5YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine, common medium and coarse, and common very coarse roots; common faint clay films on all faces of peds; 3 percent subrounded granitic gneiss cobbles and 10 percent subrounded granitic gneiss gravel; very strongly acid; abrupt smooth boundary.

Cr—26 to 33 inches; moderately cemented granitic gneiss bedrock.

R—33 to 80 inches; indurated granitic gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 6

Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR or 10YR or multicolored
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Siloam Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Shallow
Slope range: 45 to 75 percent

Associated Soils

- Bluemount soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Jackland soils, which have 35 to 60 percent clay in the subsoil, are very deep to bedrock, and are somewhat poorly drained; in similar and less steep landform positions
- Minnieville soils, which are very deep to bedrock, have 35 to 60 percent clay in the subsoil, and have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which have 35 to 60 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar landform positions
- Orenda soils, which are very deep to bedrock, have 35 to 60 percent clay in the subsoil, and have 35 to 60 percent base saturation; in similar and older landform positions
- Redbrush soils, which have 35 to 60 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar landform positions
- Spriggs soils, which are moderately deep to partially weathered bedrock and have 35 to 60 percent base saturation; in similar landform positions

Taxonomic Classification

Loamy, mixed, superactive, mesic, shallow Typic Hapludalfs

Typical Pedon

Siloam fine sandy loam; located 300 feet south and 22 degrees east of the intersection of State Routes 40 and 793, in woodland, in the southeast part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 53 minutes 15.60 seconds N. and long. 80 degrees 8 minutes 55.50 seconds W.

A—0 to 7 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine through very coarse roots; 1 percent subrounded hornblende gneiss cobbles, 2 percent subrounded quartz cobbles, 5 percent subrounded quartz gravel, and 5 percent subrounded hornblende gneiss gravel; moderately acid; clear smooth boundary.
Bt1—7 to 11 inches; strong brown (7.5YR 4/6) clay loam; moderate very fine and fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through medium roots; few medium tubular pores; few faint clay films on all faces of peds; moderately acid; clear smooth boundary.
Bt2—11 to 18 inches; yellowish red (5YR 4/6) clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine through medium roots; few medium tubular pores; common distinct clay films on all faces of peds; few fine mica flakes; moderately acid; clear irregular boundary.
Cr—18 to 22 inches; moderately cemented hornblende gneiss bedrock.
R—22 to 80 inches; indurated hornblende gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 5 to 15 inches
Depth to soft bedrock: 10 to 20 inches
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None or few
Reaction: Moderately acid to neutral, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam or clay loam

Cr/Bt horizon (if it occurs):
Color—similar to Bt horizon
Texture—similar to Bt horizon

BC or C horizon (if it occurs):
Hue—5YR to 5Y

Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Spriggs Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 45 percent

Associated Soils

- Bluemount soils, which are moderately deep to unweathered bedrock and have more than 60 percent base saturation; in similar landform positions
- Jackland soils, which are very deep to bedrock and somewhat poorly drained; in similar and less steep landform positions
- Minnieville soils, which are very deep to bedrock, have 35 to 60 percent clay in the subsoil, and have less than 35 percent base saturation; in similar and older landform positions
- Mirerock soils, which have 35 to 60 percent clay in the subsoil and more than 60 percent base saturation; in similar landform positions
- Orenda soils, which are very deep to bedrock and have 35 to 60 percent clay in the subsoil; in similar and older landform positions
- Redbrush soils, which have 35 to 60 percent clay in the subsoil, are moderately deep to unweathered bedrock, and have more than 60 percent base saturation; in similar landform positions
- Siloam soils, which are shallow to partially weathered bedrock and have more than 60 percent base saturation; in similar and steeper landform positions

Taxonomic Classification

Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Spriggs gravelly loam; located 7,400 feet north and 41 degrees east of the intersection of State Routes 616 and 654, in woodland, in the northeastern part of Franklin County, Virginia; Moneta SW, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 5 minutes 48.80 seconds N. and long. 79 degrees 40 minutes 20.10 seconds W.

A—0 to 6 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common very fine through coarse roots; 20 percent subangular hornblende gneiss gravel; strongly acid; clear smooth boundary.
Bt—6 to 38 inches; strong brown (7.5YR 4/6) gravelly clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine and few medium and coarse roots; common faint clay films on all faces of peds; 25 percent subangular hornblende gneiss gravel; strongly acid; gradual wavy boundary.
Cr—38 to 52 inches; moderately cemented hornblende gneiss bedrock.
R—52 to 80 inches; indurated hornblende gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Content of mica flakes: None or few
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR to 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam or clay loam

C horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6
Texture (fine-earth fraction)—fine sandy loam or loam

Stott Knob Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 60 percent

Associated Soils

- Clifford soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Fairview soils, which have 35 to 60 percent clay in the subsoil and are very deep to bedrock; in similar and less steep landform positions
- Hickoryknob soils, which are moderately deep to unweathered bedrock; in similar landform positions
- Rhodhiss soils, which are very deep to bedrock; in similar landform positions
- Westfield soils, which have 35 to 60 percent clay in the subsoil and are deep to partially weathered bedrock; in similar and steeper landform positions

• Woolwine soils, which have 35 to 60 percent clay in the subsoil; in similar and less steep landform positions

Taxonomic Classification

Fine-loamy, parasesquic, mesic Typic Hapludults

Typical Pedon

Stott Knob loam; located 14,250 feet north and 79 degrees west of the intersection of State Routes 632 and 717, in woodland, in the southeastern part of Franklin County, Virginia; Snow Creek, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 51 minutes 2.70 seconds N. and long. 79 degrees 50 minutes 26.80 seconds W.

A—0 to 4 inches; brown (10YR 5/3) loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through coarse roots; few very fine mica flakes; 6 percent subrounded quartz gravel and 7 percent subangular mica schist channers; very strongly acid; abrupt smooth boundary.

Bt—4 to 19 inches; yellowish red (5YR 5/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through coarse roots; common faint clay films on all faces of peds; few very fine mica flakes; 5 percent subrounded quartz gravel and 6 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

Ct1—19 to 31 inches; strong brown (7.5YR 5/6) gravelly loam; massive; very friable, nonsticky, nonplastic; few very fine through medium roots; few distinct clay films on rock fragments; 10 percent subangular mica schist channers and 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Ct2—31 to 38 inches; strong brown (7.5YR 5/6) extremely parachannery loam; massive; very friable, nonsticky, nonplastic; few very fine through medium roots; common distinct clay films on rock fragments; 25 percent subangular mica schist channers and 60 percent subangular mica schist parachanners; very strongly acid; clear smooth boundary.

Cr—38 to 80 inches; moderately cemented mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: More than 40 inches
Content of mica flakes: Few or common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer, 0 to 20 percent in the subsurface layer and subsoil, 0 to 35 percent in the upper substratum, and 0 to 85 percent in the lower substratum

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—2.5YR to 10YR

Value—4 or 5
Chroma—4 to 8
Texture (fine-earth fraction)—loam or clay loam

BC or BCt horizon (if it occurs):
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—loam or clay loam

C or Ct horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Strawfield Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from phyllite and schist
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 25 percent

Associated Soils

- Drapermill soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in steeper landform positions
- Goblintown soils, which are moderately deep to partially weathered bedrock and have browner hues; in similar landform positions
- Littlejoe soils, which are deep to bedrock; in similar landform positions
- Penhook soils, which are very deep to bedrock; in similar landform positions

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Strawfield clay loam; located 1,500 feet south and 83 degrees east of the intersection of State Routes 40 and 890, in planted pine, in the eastern part of Franklin County, Virginia; Sandy Level, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 42.40 seconds N. and long. 79 degrees 37 minutes 0.30 second W.

Ap—0 to 2 inches; brown (7.5YR 4/4) clay loam; weak very fine and fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through medium roots; 2 percent subangular phyllite channers and 3 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

BA—2 to 9 inches; strong brown (7.5YR 4/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and very coarse roots; 2 percent subangular phyllite channers and 3 percent subrounded quartz gravel; very strongly acid; abrupt smooth boundary.

Bt1—9 to 16 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, moderately plastic; few very fine and fine roots; many distinct clay films on all faces of peds; very strongly acid; clear smooth boundary.

Cr/Bt2—16 to 22 inches; Cr part is 60 percent partially weathered phyllite bedrock; Bt part is 40 percent red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, moderately plastic; few very fine roots; many distinct clay films on vertical faces of peds; very strongly acid; clear smooth boundary.

R—22 to 80 inches; indurated phyllite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches (where present)
Depth to hard bedrock: 20 to 40 inches
Content of mica flakes: None to common
Reaction: Extremely acid to strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum
Other characteristics: The particle-size control section averages more than 30 percent silt, more than 40 percent silt plus very fine sand, and less than 15 percent sand coarser than very fine sand

A or Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, silt loam, or clay loam

BA or AB horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Hue—10R to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam, silty clay loam, clay, or silty clay

Cr/Bt horizon (if it occurs):
Color—similar to the Bt horizon
Texture—similar to the Bt horizon

BC or BCt horizon (if it occurs):
Hue—10R to 10YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR or multicolored
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—loam or silt loam

Thurmont Series

Physiographic province: Blue Ridge and Piedmont
Landform: Drainageways, interfluves on uplands, and ridges on hills and mountains
Parent material: Colluvium and alluvium from metamorphic and igneous materials

Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Colescreek soils, which are rarely flooded; in low stream terrace positions
- Delanco soils, which are rarely flooded; in low stream terrace positions
- Wintergreen soils, which have 35 to 60 percent clay in the subsoil; in similar and adjacent landform positions

Taxonomic Classification

Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Thurmont fine sandy loam; located 8,150 feet south and 39 degrees east of the intersection of State Routes 890 and 652, in woodland, in the southeastern part of Franklin County, Virginia; Mountain Valley, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 49 minutes 32.40 seconds N. and long. 79 degrees 43 minutes 3.00 seconds W.

A—0 to 4 inches; dark brown (7.5YR 3/3) fine sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; few fine mica flakes; 2 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

BA—4 to 9 inches; brown (7.5YR 4/4) loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; many very fine through very coarse roots; few fine mica flakes; 2 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt1—9 to 22 inches; yellowish red (5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through coarse roots; common faint clay films on all faces of peds; few fine mica flakes; 2 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

Bt2—22 to 40 inches; yellowish red (5YR 5/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common faint clay films on all faces of peds; few fine mica flakes; 2 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

Bt3—40 to 50 inches; yellowish red (5YR 4/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common faint clay films on all faces of peds; few fine mica flakes; 12 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

BC—50 to 57 inches; yellowish red (5YR 4/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine mica flakes; 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

C—57 to 62 inches; strong brown (7.5YR 5/6) clay loam; massive; friable, slightly sticky, slightly plastic; common medium and coarse irregular yellowish brown (10YR 5/8) masses of oxidized iron and common fine irregular light gray (10YR 7/2) iron depletions; few fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Cg1—62 to 80 inches; light gray (2.5Y 7/2) sandy clay loam; massive; friable, slightly sticky, slightly plastic; common fine and medium irregular strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Cg2—80 to 90 inches; white (5Y 8/1) clay; massive; firm, moderately sticky, moderately plastic; common fine and medium irregular yellowish brown (10YR

5/8) masses of oxidized iron; few fine mica flakes; 5 percent subrounded quartz gravel; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum
Redoximorphic features: Shades of red, brown, yellow, or gray in the lower BC, BCg, C, or Cg horizon

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

AB or BA horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Btg or BCg horizon (if it occurs):
Hue—5YR to 10YR
Value—5 to 7
Chroma—1 or 2
Texture (fine-earth fraction)—loam, sandy clay loam, clay loam, or clay

BC horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Cg horizon:
Hue—10YR to 5Y
Value—5 to 8
Chroma—1 or 2
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, clay loam, or clay

Comments

The Thurmont soils in this survey area are considered taxadjuncts to the series. They have a water table at a depth of 4 to 6 feet and are Typic Hapludults.

Trimont Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist, mica gneiss, and amphibolite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 25 to 95 percent

Associated Soils

- Porters soils, which are deep to bedrock and have less development; in similar landform positions

Taxonomic Classification

Fine-loamy, mixed, active, mesic Humic Hapludults

Typical Pedon

Trimont loam; located 8,400 feet north and 49 degrees east of the intersection of State Routes 793 and 792, in woodland, in the southwestern part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 55 minutes 56.70 seconds N. and long. 80 degrees 9 minutes 4.20 seconds W.

A—0 to 10 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through coarse roots; 1 percent subrounded quartz gravel and 2 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

Bt1—10 to 23 inches; brown (7.5YR 4/3) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through very coarse roots; few faint clay films on all faces of peds; few fine mica flakes; 4 percent subangular mica schist channers and 4 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt2—23 to 29 inches; brown (7.5YR 4/4) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine through very coarse roots; few faint clay films on all faces of peds; few fine mica flakes; 5 percent subrounded quartz gravel and 5 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

BC—29 to 33 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common fine mica flakes; 5 percent subrounded quartz gravel and 5 percent subangular mica schist channers; very strongly acid; gradual smooth boundary.

C—33 to 80 inches; dark yellowish brown (10YR 4/4) and brown (7.5YR 4/3 and 4/4) fine sandy loam; massive; loose, nonsticky, nonplastic; many fine mica flakes; 5 percent subangular mica schist channers; very strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: More than 60 inches

Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few or common in the A and B horizons and few to many in the C horizon
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 5
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

C horizon:
Hue—5YR to 10YR or multicolored
Value—4 to 6
Chroma—2 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Tuckasegee Series

Physiographic province: Blue Ridge
Landform: Drainageways and ridges on mountains
Parent material: Colluvium from metamorphic and igneous materials
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 5 to 60 percent

Associated Soils

- Cullasaja soils, which have more than 35 percent rock fragments between a depth of 10 and 40 inches; in similar landform positions
- Dellwood soils, which have more than 35 percent rock fragments, have a texture of sand or loamy sand between a depth of 10 and 40 inches, and are occasionally flooded; in flood plain positions

Taxonomic Classification

Fine-loamy, isotic, mesic Humic Dystrudepts

Typical Pedon

Tuckasegee cobbly loam; located 7,650 feet south and 52 degrees east of the intersection of State Routes 613 and 736, in woodland, in the western part of Patrick County, Virginia; Stuart, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 43 minutes 54.00 seconds N. and long. 80 degrees 17 minutes 7.00 seconds W.

A—0 to 14 inches; very dark brown (7.5YR 2.5/2) cobbly loam; moderate medium granular structure; very friable, nonsticky, nonplastic; common fine tubular pores; few fine mica flakes; 6 percent subrounded gravel and 10 percent rounded cobbles; very strongly acid; clear wavy boundary.

AB—14 to 17 inches; dark brown (7.5YR 3/4) cobbly loam; weak medium granular structure; very friable, nonsticky, nonplastic; common fine tubular pores; few fine mica flakes; 6 percent subrounded gravel and 10 percent rounded cobbles; strongly acid; clear wavy boundary.

Bw1—17 to 42 inches; strong brown (7.5YR 4/6) cobbly loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; few fine tubular pores; common fine mica flakes; 5 percent subrounded gravel and 15 percent rounded cobbles; strongly acid; gradual wavy boundary.

Bw2—42 to 60 inches; strong brown (7.5YR 4/6) cobbly sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine tubular pores; common fine mica flakes; 5 percent subrounded gravel and 20 percent rounded cobbles; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 15 to 50 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Few or common
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 15 to 35 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A horizon:
Hue—5YR to 10YR
Value—2 or 3
Chroma—1 to 3
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

AB or BA horizon:
Hue—5YR to 10YR
Value—3 or 4
Chroma—2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—5YR to 10YR
Value—3 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or sandy clay loam

BC horizon (if it occurs):
Hue—5YR to 10YR
Value—4 to 6

Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon (if it occurs):
Hue—5YR to 10YR or multicolored
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Walnut Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope range: 25 to 95 percent

Associated Soils

- Myersville soils, which have 18 to 35 percent clay in the subsoil and are deep to partially weathered bedrock; in similar landform positions

Taxonomic Classification

Coarse-loamy, mixed, superactive, mesic Dystric Eutrudepts

Typical Pedon

Walnut fine sandy loam; located 7,800 feet south and 22 degrees east of the intersection of State Routes 637 and 635, in woodland, in the southwestern part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 53 minutes 1.30 seconds N. and long. 80 degrees 13 minutes 12.20 seconds W.

A—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few very fine through very coarse roots; few medium and coarse tubular pores; 1 percent subangular amphibolite gravel; slightly acid; clear smooth boundary.
BA—4 to 12 inches; brown (10YR 4/3) fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few very fine through very coarse roots; few medium and coarse tubular pores; 3 percent subangular amphibolite gravel; strongly acid; gradual smooth boundary.
Bw—12 to 25 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common very fine through coarse roots; 3 percent subangular amphibolite paragravel and 5 percent subangular amphibolite gravel; moderately acid; clear irregular boundary.
Cr—25 to 41 inches; moderately cemented amphibolite bedrock.
R—41 to 80 inches; indurated amphibolite bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Cambic horizon, 8 to 24 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: More than 40 inches
Content of mica flakes: None to common
Reaction: Strongly acid to neutral, except in limed areas

Rock fragments: 0 to 15 percent in the surface layer and 0 to 35 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

AB or BA horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BC horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon (if it occurs):
Hue—7.5YR to 5Y
Value—4 to 6
Chroma—4 or 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Watauga Series

Physiographic province: Blue Ridge
Landform: Ridges on mountains
Parent material: Residuum from mica schist and mica gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 8 to 45 percent

Associated Soils

- Brownwood soils, which have less than 18 percent clay in the subsoil; in similar and steeper landform positions
- Chandler soils, which have less than 18 percent clay in the subsoil; in similar and steeper landform positions

Taxonomic Classification

Fine-loamy, paramicaceous, mesic Typic Hapludults

Typical Pedon

Watauga loam; located 1,950 feet north and 34 degrees east of the intersection of State Routes 640 and 666, in woodland, in the western part of Franklin County, Virginia; Endicott, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 58 minutes 29.70 seconds N. and long. 80 degrees 8 minutes 7.20 seconds W.

A—0 to 5 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; friable, nonsticky, nonplastic; common very fine through coarse roots; common fine mica flakes; 2 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

BA—5 to 8 inches; yellowish brown (10YR 5/4) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; common very fine through coarse roots; common fine mica flakes; 2 percent subangular mica schist channers; very strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; dark yellowish brown (10YR 4/6) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common very fine through coarse roots; few faint clay films on all faces of peds; common fine mica flakes; 2 percent subangular mica schist channers; very strongly acid; gradual smooth boundary.

Bt2—14 to 25 inches; dark yellowish brown (10YR 4/6) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; few very fine through medium roots; few faint clay films on all faces of peds; many fine mica flakes; very strongly acid; gradual smooth boundary.

BC—25 to 30 inches; yellowish brown (10YR 5/6) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many fine mica flakes; 5 percent subangular mica schist channers; strongly acid; clear smooth boundary.

C—30 to 80 inches; dark yellowish brown (10YR 4/4 and 4/6) and yellowish brown (10YR 5/4 and 5/6) parachannery sandy loam; massive; very friable, nonsticky, nonplastic; many fine mica flakes; 15 percent subangular mica schist channers; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 11 to 40 inches
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: Common or many in the surface layer and upper B horizon and many in the lower B horizon and in the C horizon
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer, subsurface layer, and subsoil and 0 to 25 percent in the substratum

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 5
Texture (fine-earth fraction)—fine sandy loam or loam

Bt horizon:
Hue—5YR to 10YR; 5YR colors are restricted to individual subhorizons
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam or loam

C horizon:
Hue—5YR to 10YR or multicolored
Value—4 to 6
Chroma—2 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, or loam

Westfield Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Deep
Slope range: 8 to 60 percent

Associated Soils

- Clifford soils, which are very deep to bedrock; in similar and less steep landform positions
- Fairview soils, which are very deep to bedrock; in similar and less steep landform positions
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Rhodhiss soils, which have 18 to 35 percent clay in the subsoil and are very deep to bedrock; in similar and steeper landform positions
- Stott Knob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to partially weathered bedrock; in similar and steeper landform positions
- Woolwine soils, which are moderately deep to partially weathered bedrock; in similar and steeper landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Westfield loam; located 10,950 feet south and 81 degrees west of the intersection of State Routes 632 and 717, in woodland, in the southeastern part of Franklin County, Virginia; Snow Creek, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 50 minutes 18.10 seconds N. and long. 79 degrees 49 minutes 46.40 seconds W.

A—0 to 4 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine through medium and few coarse and very coarse roots; few fine mica flakes; 2 percent subrounded quartz cobbles and 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

BA—4 to 9 inches; strong brown (7.5YR 4/6) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine through medium and few coarse and very coarse roots; few coarse dendritic tubular pores; few fine mica flakes; 2 percent subrounded quartz cobbles and 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt1—9 to 15 inches; yellowish red (5YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through very coarse roots; common faint clay films on all faces of peds; few fine mica flakes; 2 percent subrounded quartz cobbles and 5 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt2—15 to 35 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine through very coarse roots; many distinct clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual smooth boundary.

BC—35 to 40 inches; yellowish red (5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine through very coarse roots; common fine mica flakes; 10 percent subangular mica schist channers; very strongly acid; gradual smooth boundary.

C—40 to 48 inches; strong brown (7.5YR 4/6) fine sandy loam; massive; very friable, nonsticky, nonplastic; common fine mica flakes; 10 percent subangular mica schist channers; very strongly acid; clear smooth bounrdary.

Cr—48 to 71 inches; moderately cemented mica schist bedrock.

R—71 to 80 inches; indurated mica schist bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Kandic horizon, 11 to 45 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to many
Reaction: Very strongly acid to moderately acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 20 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

AB or BA horizon:
Hue—5YR or 7.5YR
Value—4 to 5
Chroma—4 or 6
Texture (fine-earth fraction)—loam or clay loam

Bt horizon:
Hue—2.5YR to 7.5YR; 7.5YR colors are restricted to individual subhorizons
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC or BCt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—2.5YR to 10YR or multicolored

Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Wintergreen Series

Physiographic province: Blue Ridge and Piedmont
Landform: High stream terraces in river valleys, interfluves on uplands, and ridges on hills and mountains
Parent material: Alluvium and colluvium from metamorphic and igneous materials
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Clifford soils, which are residual and have less clay in the lower solum; in similar and adjacent landform positions
- Colescreek soils, which have 18 to 35 percent clay in the subsoil, are moderately well drained, have more than 35 percent base saturation, and are rarely flooded; in low stream terrace positions
- Delanco soils, which have 18 to 35 percent clay in the subsoil, are somewhat poorly drained, and are rarely flooded; in low stream terrace positions
- Elsinboro soils, which have 18 to 35 percent clay in the subsoil and are rarely flooded; in low stream terrace positions
- Thurmont soils, which have 18 to 35 percent clay in the subsoil; in similar and adjacent landform positions

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Paleudults

Typical Pedon

Wintergreen loam; located 4,100 feet south and 33 degrees west of the intersection of State Routes 602 and 830, in woodland, in the western part of Franklin County, Virginia; Callaway, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 37 degrees 0 minutes 47.20 seconds N. and long. 80 degrees 4 minutes 20.10 seconds W.

A—0 to 9 inches; brown (7.5YR 4/4) loam; moderate fine granular structure; very friable, slightly sticky, slightly plastic; common very fine through coarse roots; strongly acid; abrupt smooth boundary.
Bt1—9 to 14 inches; yellowish red (5YR 4/6) clay loam; moderate fine subangular blocky structure; friable, moderately sticky, slightly plastic; few very fine and fine and common medium and coarse roots; common faint clay films on all faces of peds; strongly acid; abrupt smooth boundary.
Bt2—14 to 26 inches; red (2.5YR 4/6) clay; weak medium subangular blocky structure; friable, very sticky, slightly plastic; few very fine and fine and common medium and coarse roots; common faint clay films on all faces of peds; strongly acid; clear smooth boundary.
Bt3—26 to 37 inches; dark red (2.5YR 3/6) clay; weak medium subangular blocky

structure; friable, very sticky, slightly plastic; few very fine and fine roots; common faint clay films on all faces of peds; strongly acid; gradual smooth boundary.

Bt4—37 to 50 inches; dark red (2.5YR 3/6) clay; few fine prominent irregular brownish yellow (10YR 6/6) mottles; weak very coarse platy structure; friable, very sticky, slightly plastic; few very fine and fine roots; common faint clay films on all faces of peds; 5 percent rounded quartz gravel; strongly acid; gradual smooth boundary.

Bt5—50 to 80 inches; dark red (2.5YR 3/6) clay; common fine prominent irregular brownish yellow (10YR 6/8) mottles; weak very coarse platy structure; friable, very sticky, slightly plastic; few faint clay films on all faces of peds; 5 percent rounded quartz gravel; strongly acid.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Argillic horizon, 20 to 55 inches or more
Depth to soft bedrock: More than 60 inches
Depth to hard bedrock: More than 60 inches
Content of mica flakes: None to common
Reaction: Very strongly acid or strongly acid, except in limed areas
Rock fragments: 0 to 15 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—5YR to 10YR
Value—3 or 4
Chroma—3 or 4
Texture (fine-earth fraction)—fine sandy loam, loam, or clay loam

Bt horizon:
Hue—10R to 5YR
Value—3 to 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC horizon (if it occurs):
Hue—2.5YR
Value—4
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam

C horizon (if it occurs):
Hue—2.5YR
Value—4
Chroma—6
Texture (fine-earth fraction)—sandy loam or loam

Woolwine Series

Physiographic province: Piedmont
Landform: Interfluves on uplands and ridges on hills
Parent material: Residuum from mica schist, mica gneiss, metagraywacke, and high-grade metamorphic rocks
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 8 to 60 percent

Associated Soils

- Clifford soils, which are very deep to bedrock; in similar and less steep landform positions
- Fairview soils, which are very deep to bedrock; in similar and less steep landform positions
- Hickoryknob soils, which have 18 to 35 percent clay in the subsoil and are moderately deep to unweathered bedrock; in similar and steeper landform positions
- Rhodhiss soils, which have 18 to 35 percent clay in the subsoil and are very deep to bedrock; in similar and steeper landform positions
- Stott Knob soils, which have 18 to 35 percent clay in the subsoil; in similar and steeper landform positions
- Westfield soils, which are deep to partially weathered bedrock; in similar and less steep landform positions

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Woolwine loam; located 8,000 feet south and 45 degrees east of the intersection of State Routes 890 and 652, in woodland, in the southern part of Franklin County, Virginia; Mountain Valley, Virginia USGS 7.5 Minute Quadrangles, NAD27; lat. 36 degrees 49 minutes 39.40 seconds N. and long. 79 degrees 42 minutes 56.50 seconds W.

A—0 to 2 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine through very coarse roots; few fine mica flakes; 13 percent subrounded mica gneiss gravel; very strongly acid; abrupt smooth boundary.

Bt1—2 to 7 inches; yellowish red (5YR 4/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine through very coarse roots; few faint clay films on all faces of peds; few fine mica flakes; 10 percent subrounded mica gneiss gravel; very strongly acid; clear smooth boundary.

Bt2—7 to 13 inches; yellowish red (5YR 4/6) clay; moderate fine subangular blocky structure; firm, slightly sticky, slightly plastic; common very fine through very coarse roots; common distinct clay films on all faces of peds; few fine mica flakes; 10 percent subrounded mica gneiss gravel; very strongly acid; clear smooth boundary.

Bt3—13 to 28 inches; red (2.5YR 4/8) clay; moderate fine subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine through coarse roots; common distinct clay films on all faces of peds; few fine mica flakes; 13 percent subrounded mica gneiss gravel; very strongly acid; gradual smooth boundary.

Cr—28 to 42 inches; moderately cemented mica gneiss bedrock.

R—42 to 80 inches; indurated mica gneiss bedrock.

Range in Characteristics

Diagnostic subsurface horizon (type, thickness): Kandic horizon, 11 to 35 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Content of mica flakes: Few or common
Reaction: Extremely acid to moderately acid, except in limed areas
Rock fragments: 0 to 20 percent in the surface layer and 0 to 25 percent in the subsurface layer, subsoil, and substratum

A or Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture (fine-earth fraction)—fine sandy loam or loam

BA horizon (if it occurs):
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 or 6
Texture (fine-earth fraction)—fine sandy loam, loam, or clay loam

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or clay

BC horizon (if it occurs):
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture (fine-earth fraction)—clay loam or sandy clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Formation of the Soils

This section describes the factors and processes that have affected the formation and morphology of the soils in the survey area. It also discusses the geology of the area.

Factors of Soil Formation

Soils form by processes of the environment acting upon geologic agents, such as metamorphic, igneous, and sedimentary rocks and fluvial stream sediments. The characteristics of a soil are determined by the combined influence of parent material, climate, plant and animal life, relief, and time. These five factors are responsible for the profile development and chemical properties that differentiate soils (Buol, Hole, and McCracken, 1980). In some areas, one factor may be more dominant in the formation of a soil and therefore determine most of its properties. Normally, however, the interaction of all factors determines the kind of soil that forms. The variety of parent materials and relief cause substantial soil diversity in Franklin County.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. It is a product of weathering, or decomposition, of underlying bedrock or transported materials. Parent material influences the chemical, mineral, and textural composition of the soil. In the early stages of soil formation, a soil has properties similar to those of the parent material. As weathering takes place, the soil properties are modified and each soil develops its own characteristics. In Clifford and Comus soils, parent material determines their mineral and textural composition. Clifford soils formed in residual materials weathered mainly from mica schist and mica gneiss. In contrast, Comus soils formed in alluvial materials weathered from sandy river sediments. Clifford soils are fine textured and have kaolinitic mineralogy. Comus soils are coarse textured and have mixed mineralogy. These differences are the result of having different parent materials.

The three general types of parent materials in Franklin County are residuum, colluvium, and alluvium. Residual material weathered in place from the underlying bedrock. Colluvial material was moved by gravity from ridges and the upper slopes and deposited on the lower slopes. Alluvial material was deposited on flood plains and terraces by rivers and streams.

Climate

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. It influences the rate at which rock weathers and organic matter decomposes. The amount of leaching in a soil is related to the amount of rainfall and the movement of water through the soil. The effects of climate also control the kinds of plants and animals living in and on the soil. Temperature influences the kind and growth of organisms and the speed of chemical and physical reactions in the soil.

Franklin County has a warm, humid climate. The climate favors rapid chemical processes, which result in the decomposition of organic matter and the weathering of rocks. The effects of climate are reflected in the soils of the county. Mild temperatures throughout the year and abundant rainfall have resulted in the depletion of organic matter and considerable leaching of soluble bases in most soils. Climate has mainly affected the formation of soils in the county by altering the parent material through the effects of temperature and precipitation and through influences on plant and animal life.

In Franklin County, climate is affected by elevation, aspect, and landscape position. The higher elevations of the Blue Ridge Mountains result in temperatures cooler than those of the Piedmont portion of the county. Within the Blue Ridge Mountains, north- and east-facing aspects and protected coves are cooler than south- and west-facing aspects and exposed areas. The cooler temperatures in the mountains result in soils that are more likely to be darker, lower in clay, and higher in organic matter than soils in the Piedmont. In shaded drainageways of the Blue Ridge Mountains, Cullasaja and Tuckasegee soils that have thick, dark surface layers are common. In the southwestern part of Franklin County, Trimont and Porters soils occur on cool, north- and east-facing slopes at high elevations.

Plant and Animal Life

Plants and animals influence the formation and differentiation of soil horizons. The type and number of organisms in and on the soil are determined in part by climate and in part by the nature of the soil material, relief, and the age of the soil. Bacteria, fungi, and other micro-organisms aid in the weathering of rocks and in the decomposition of organic matter. The plants and animals that live on a soil are the primary source of organic material.

Animals convert complex compounds into simpler forms, add organic matter to the soil, and modify certain chemical and physical properties of soil. In Franklin County most of the organic material accumulates on the surface. It is acted upon by micro-organisms, fungi, earthworms, and other forms of life and by direct chemical reaction. It is mixed with the uppermost mineral part of the soil by the activities of earthworms and other small invertebrates.

Under the native forest of the county, not enough bases are brought to the surface by plants to counteract the effects of leaching. Generally, the soils of the county developed under a hardwood forest. Trees took up elements from the subsoil and added organic matter to the soil by depositing leaves, roots, twigs, and other plant remains on the surface. The material deposited on the surface was acted upon by organisms and underwent chemical reaction.

Organic material decomposes rapidly in most of the county because of the moderate temperature, the abundant moisture supply, and the character of the organic material. It decays so rapidly that little of it accumulates in the soil. However, sites at higher elevations, on cool north- and east-facing slopes, and in protected drainageways contain a much higher content of organic matter due to cooler temperatures and slower decomposition.

Relief

Relief is the relative positions and elevations of surface features. It influences soil development, geologic erosion, surface runoff, drainage, and soil temperature. In Franklin County, relief varies greatly with slopes ranging from 0 to 95 percent. Figure 2 in the section “General Nature of the County” demonstrates how different types of relief can be classified into landscapes and landforms.

The variation in relief affects the depth and development of soils. Different parts of the landscape are either gaining, losing, or at equilibrium with respect to soil material. Mature, older landscapes, such as the gently sloping Piedmont uplands, are gaining or losing little soil material. Soils in these areas generally have deeper, better developed profiles than the steeper soils. Clifford soils are a good example. Younger, less mature soils are on parts of the landscape that gain or lose much soil material, in areas such as the rugged Piedmont hills and the Blue Ridge Mountains. Many of the strongly sloping to very steep soils have a thin solum and are shallower to bedrock. Woolwine soils are an example. Soils with less clay in the subsoil, such as Hickoryknob soils, are also common. The soils in the steep mountains also tend to be less developed and lower in clay content than those in the Piedmont uplands. Ash and Sauratown soils are examples. Some less mature soils are in areas gaining soil materials. For example, drainageways often gain much soil material from adjacent slopes and are very deep. Examples of young soils gaining soil materials from adjacent slopes are Cullasaja and Tuckasegee soils.

In the Piedmont uplands, soils in the lower landscape positions are less sloping and receive runoff from the adjacent higher areas. This runoff tends to accumulate in the nearly level to slightly concave areas. The seasonal high water table in these lower areas is also usually closer to the surface. The somewhat poorly drained Delanco soils and the moderately well drained Colescreek soils are on low terraces in these areas, and the somewhat poorly drained Iotla soils and the moderately well drained Maggodee soils are on the flood plains.

Time

The length of time that soil material has been exposed to the soil-forming processes accounts for some differences between soils. Soils vary considerably in age. The length of time that a soil has been forming is generally reflected in the profile. Old soils generally have better defined horizons than young soils. Wintergreen soils, found mostly on old stable stream terraces, are examples of mature soils. Soils along streams, such as Maggodee and Iotla, are examples of immature soils with poorly developed soil profiles. The periodic flooding on these soils results in sediments being moved throughout the flood plain, and mature soil profiles do not develop. In addition, soils on steep landscapes, such as Peaks soils, are often less developed because the relatively high amount of geologic erosion does not allow for mature soil development. Other immature soils, such as Cullasaja soils, occur in lower landscape positions of steep landscapes that receive material from geologic erosion of the surrounding slopes.

Processes of Horizon Differentiation

One or more soil-forming processes are involved in the formation of soil horizons. These processes involve the accumulation of organic matter; the leaching of soluble materials; the chemical weathering, mainly by hydrolysis, of primary minerals into silicate clay minerals; the translocation of silicate clay and some silt-sized particles from one horizon to another; and the reduction and transfer of iron.

These processes have been active in the formation of most of the soils in Franklin County. The interaction of the first four processes is indicated by the strongly expressed horizons in Clifford and Fairview soils. All five processes have probably been active in the formation of the moderately well drained Colescreek soils.

Some organic matter has accumulated in all of the soils in Franklin County, and most of the soils contain low or moderate amounts of organic matter in the surface layer. The content of organic matter ranges from low, as in Clifford soils, to high, as in Tuckasegee soils.

The translocation of clay minerals is an important process in the development of many soils in the survey area. As clay minerals are removed from the A horizon, they accumulate as clay films on the faces of peds, in pores, and in root channels in the B horizon.

As silicate clay forms from primary minerals, some iron is commonly released as hydrated oxides. These oxides are generally red. Even if they occur in small amounts, they give the soil material a brownish color. They are largely responsible for the strong brown, yellowish brown, or reddish brown colors that are dominant in the subsoil of many soils in the survey area.

The reduction and transfer of iron has occurred in all of the soils that are not characterized by good natural drainage. This process, known as gleying, is evidenced by a gray matrix color and by iron or clay depletions. Some of the iron may be reoxidized and segregated and thus form yellow, brown, red, or other brightly colored masses of iron accumulation in an essentially gray matrix in the subsoil. Nodules or concretions of iron or manganese also commonly form as a result of this process. Soil features associated with chemically reduced iron are referred to as redoximorphic features (Vepraskas, 1992).

Geology and Soils

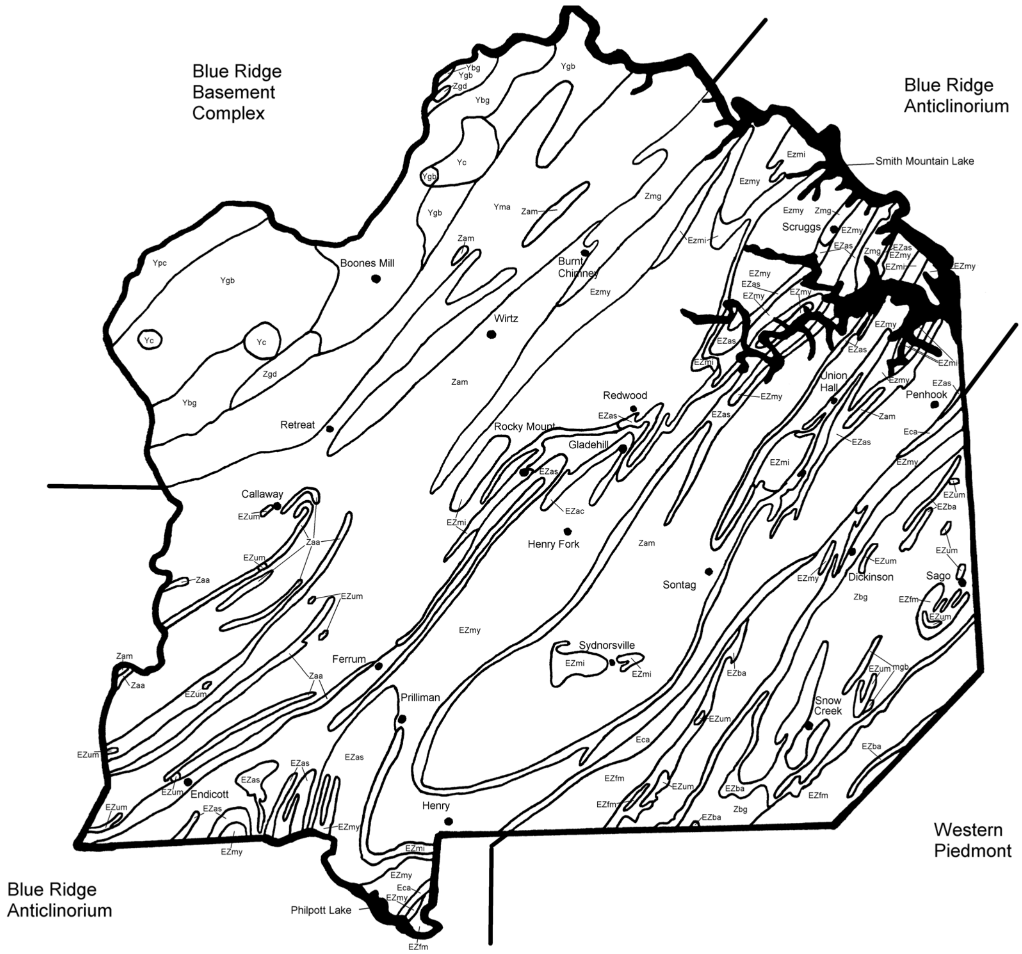
The geology in Franklin County is divided into three areas: the Blue Ridge Basement Complex, the Blue Ridge Anticlinorium, and the Western Piedmont. These areas are further separated into subdivisions and formations in the 1993 Geologic Map of Virginia (fig. 9) (Virginia Department of Mines, Minerals, and Energy, 1993). This information is used as a source for the following descriptions.

The Blue Ridge Basement Complex in Franklin County consists mainly of granulite, gneiss, augen gneiss, and flaser gneiss. The two largest areas are from the Middle Proterozoic gneisses subdivision. These rocks consist of layered biotite granulite and gneiss and layered quartzofeldspathic augen gneiss and flaser gneiss. The third largest area of the Blue Ridge Basement Complex in Franklin County is from the Middle Proterozoic plutonic rocks subdivision and consists of porphyroblastic biotite-plagioclase augen gneiss. Smaller areas from this subdivision include charnockite and porphyritic leucocharnockite. Also, from the Late Proterozoic igneous rocks subdivision, a small area of biotite granodiorite and biotite granite exists.

The major soil series that formed in residuum weathered from bedrock of the Blue Ridge Basement Complex are Ashe, Edneyville, Peaks, Edneytown, Sauratown, and Hayesville. Ashe, Edneyville, and Peaks soils formed on rugged mountains of the Blue Ridge escarpment in the northwestern portion of the county and are coarse-loamy or loamy-skeletal. Edneytown, Sauratown, and Hayesville soils formed on less rugged mountains in the same location and are fine-loamy or fine textured.

The Blue Ridge Anticlinorium in Franklin County consists of stratified rocks of the Ashe, Alligator Back, and Candler Formations as well as mafic igneous and ultramafic rocks. The two largest areas of the Blue Ridge Anticlinorium in Franklin County consist of biotite gneiss from the Ashe Formation and feldspathic metagraywacke, graphitic schist, and quartzite from the Alligator Back Formation. Some areas consist of hornblende and hornblende gneiss or amphibolite and garnet amphibolite from the Ashe Formation. Smaller areas consist of actinolite schist from the Alligator Back Formation, and there is a thin band of phyllite from the Candler Formation. Isolated spots of mafic igneous and ultramafic rocks are also present.

The major soil series that formed in residuum weathered from bedrock of the Blue Ridge Anticlinorium can be separated into several groups. Soil series formed in residuum of biotite gneiss on the rugged mountains of the Blue Ridge escarpment in the western portion of the county include Brownwood, Chandler, Trimont, Porters, Watauga, and Hayesville. These soils are coarse-loamy, fine-loamy, and fine textured. Other soil types in this area that formed in residuum of amphibolite and garnet



LEGEND

Blue Ridge Basement Complex

Ypc porphorytic leucocharnockite
Ygb layered biotite granulite and gneiss
Yc charnockite
Zgd biotite granodiorite and biotite granite
Ybg porphyroblastic granite gneiss
Yma layered quartzofeldspathic augen gneiss and flaser gneiss

Blue Ridge Anticlinorium

Eca phyllite
EZmi mafic igneous complex
EZum ultramafic rocks
EZas actinolite schist
EZmy feldspathic metagraywacke, graphitic mica schist, and quartzite
Zaa amphibolite and garnet amphibolite
Zam biotite gneiss
Zmg hornblende and hornblende-biotite gneiss

Western Piedmont

EZfm quartzose mica schist, garnet biotite gneiss, calc-silicate quartzite, and melange
EZba amphibolite
Zbg quartzofeldspathic biotite gneiss and granite gneiss
Ezum ultramafic rocks

Figure 9.—Franklin County geology.

amphibolite include Myersville and Walnut, which are also coarse-loamy and fine-loamy.

Soil series that formed in residuum of biotite gneiss, feldspathic metagraywacke, and quartzite in the less rugged Piedmont uplands and more rugged Piedmont hills include Clifford, Hickoryknob, Rhodhiss, Stott Knob, Woolwine, Fairview, and Westfield. Soil series that formed in residuum of graphitic schist and phyllite in the Piedmont include Drapermill, Goblintown, Penhook, Littlejoe, and Strawfield. All of these soils are fine-loamy and fine textured.

Soil series that formed in residuum of hornblende, hornblende gneiss, amphibolite, garnet amphibolite, actinolite schist, and mafic igneous and ultramafic rocks in the more rugged Piedmont hills and less rugged Piedmont uplands include Bluemount,

Major Land Resource Area	Geology	Subdivision/Formation	Geology Map Symbols	Rock Type	Map Units	Major Residual Soils
Blue Ridge (130)	Blue Ridge Basement Complex	Middle Proterozoic gneisses, Middle Proterozoic plutonic rocks, and Late Proterozoic igneous rocks	Ypc, Ygb, Yc, Zgd, Ybg, Yma	granitic gneiss, biotite augen gneiss, flaser gneiss, granulite, other resistant rocks, and mica schist and mica gneiss	1C, 2D, 16C, 16D, 16E, 16F, 19C, 19D, 20E, 33E, 33F	Ashe, Edneyville, Peaks, Edneytown, Sauratown, and Hayesville
Blue Ridge (130)	Blue Ridge Anticlinorium	Ashe Formation	Zam	mica schist and mica gneiss	6C, 6D, 6E, 6F, 19C, 19D, 20E, 37E, 37F, 38C, 38D, 38E	Brownwood, Chandler, Trimont, Porters, Watauga, and Hayesville
Blue Ridge (130)	Blue Ridge Anticlinorium	Ashe Formation	Zaa, Ezum	amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss	30C, 30D, 31E, 32F	Myersville and Walnut
Southern Piedmont (136)	Blue Ridge Anticlinorium	Ashe and Alligator Back formations	Zam, Zmg, Ezmy	mica schist, mica gneiss, metagraywacke, hornblende gneiss, and high grade metamorphic rocks	7B, 7C, 7D, 8E, 22C, 22D, 22E, 40C, 40D, 40E	Clifford, Hickoryknob, Rhodhiss, Stott Knob, Woolwine, Fairview, and Westfield
Southern Piedmont (136)	Blue Ridge Anticlinorium	Alligator Back and Candler formations	Eca, Ezmy	graphitic schist and phyllite	15E, 18E, 25C, 25D, 26C, 26D	Drapermill, Goblintown, Penhook, Littlejoe, and Strawfield
Southern Piedmont (136)	Blue Ridge Anticlinorium	Ashe and Alligator Back formations, and mafic igneous and ultramafic rocks	Ezas, Zaa, Ezum, Ezmi	amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss	3D, 4C, 5E, 24B, 24C, 27B, 27C, 27D, 27E, 28C, 28D, 34F	Bluemount, Redbrush, Spriggs, Jackland, Mirerock, Minnieville, Orenda, and Siloam
Southern Piedmont (136)	Western Piedmont	Smith River Allochthon; Fork Mountain and Bassett formations	Ezfm, Zbg	mica schist, mica gneiss, metagraywacke, and high grade metamorphic rocks	7B, 7C, 7D, 8E, 22C, 22D, 22E, 40C, 40D, 40E	Clifford, Hickoryknob, Rhodhiss, Stott Knob, Woolwine, Fairview, and Westfield
Southern Piedmont (136)	Western Piedmont	Smith River Allochthon; Bassett Formation, and ultramafic rocks	Ezba, Ezum	amphibolite, actinolite schist and gneiss, and hornblende schist and gneiss	3D, 4C, 5E, 24B, 24C, 27B, 27C, 27D, 27E, 28C, 28D, 34F	Bluemount, Redbrush, Spriggs, Jackland, Mirerock, Minnieville, Orenda, and Siloam

Figure 10.—Franklin County geology and soils.

Redbrush, Spriggs, Jackland, Mirerock, Minnieville, Orenda, and Siloam. These soils are fine-loamy and fine textured, except for Siloam soils, which are loamy.

The Western Piedmont in Franklin County consists of stratified rocks from the Smith River Allochthon. Both the Fork Mountain and the Bassett Formations are expressed in the county. The Fork Mountain Formation consists of quartzose mica schist, garnet biotite gneiss, calc-silicate quartzite, and melange. These rock types form Fork, Chestnut, and Turkeycock Mountains in the southeast section of the county. The Bassett Formation consists of quartzofeldspathic biotite gneiss and granite gneiss. There are also several bands of amphibolite and ultramafic rocks.

The major soil series that formed in residuum weathered from bedrock of the Western Piedmont are Clifford, Hickoryknob, Rhodhiss, Stott Knob, Woolwine, Fairview, and Westfield. These soils formed on the more rugged Piedmont hills and the less rugged Piedmont uplands from felsic parent materials and are fine-loamy and fine textured.

The major soil series that formed in residuum weathered from bedrock of amphibolite and ultramafic rocks include Bluemount, Redbrush, Spriggs, Jackland, Mirerock, Minnieville, Orenda, and Siloam. These soils also formed on the more rugged Piedmont hills and the less rugged Piedmont uplands in thin bands. They are fine-loamy and fine textured, except for Siloam soils, which are loamy.

Figure 10 summarizes the relationship of geology, rock type, map units, and major residual soils present in Franklin County.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Buol, S.W., F.D. Hole, and R.J. McCracken. 1980. Soil genesis and classification. 3rd edition.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Franklin County Chamber of Commerce. 1995. Franklin County resource guide.

Hall and Hanquin. County and city extra annual metro. city and county data book.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. 2002. Field indicators of hydric soils in the United States. Version 5.0.

Johnson, T.G. 1992. Forest statistics for Virginia. U.S. Department of Agriculture, Forest Service, Southeast Forest Experiment Station, Resource Bulletin SE-131.

Muller, R.A., and T.M. Overlander. 1984. Physical geography today, a portrait of a planet. 3rd edition.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Salmon and Salmon. 1985. Franklin County, Virginia 1776-1986: A bicentennial history.

Sammons, Macon, Jr. 1997. A guide to Franklin County.

Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson, editors. 2002. Field book for describing and sampling soils. Version 2.0. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/technical/

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, National Agriculture Statistics Service. 1992. Census of agriculture, Franklin County, Virginia.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://soils.usda.gov/

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

Vepraskas, Michael J. 1992. Redoximorphic features for identifying aquic conditions. N.C. State University, N.C. Agricultural Research Service. Bulletin 301.

Virginia Agricultural Statistics Service. 1998. Virginia agricultural statistics. Bulletin 1998, No. 71.

Virginia Department of Conservation and Recreation. 1996. Hydrologic unit map of Franklin County, Virginia.

Virginia Department of Forestry. 1986. Virginia’s forest, Our common wealth.

Virginia Department of Game and Inland Fisheries. 1998. Freshwater fishing guide.

Virginia Department of Mines, Minerals, and Energy. 1985. Minerals for Virginia.

Virginia Department of Mines, Minerals, and Energy. 1993. Geologic map of Virginia.

Virginia Polytechnic Institute and State University. 1994. VALUES—Virginia Agronomic Land Use Evaluation System. *In* Soil Test Recommendations for Virginia (S.D. Donohue, ed.). Virginia Cooperative Extension.

West Piedmont Planning District. 1997. Overall economic development program annual report for counties of Franklin, Henry, Patrick, and Pittsylvania, et al.

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

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 (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

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.

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 and under similar climatic conditions but that 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.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Concretions. See Redoximorphic features.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse-grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Crusts, soil. Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.

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. 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.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer. 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.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Earthy fill. See Mine spoil.

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.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan (alluvial). A generic term for constructional landforms that are built of stratified alluvium with or without debris-flow deposits and that occur on the pediment slope, downslope from their source of alluvium.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flooding frequency class. Flooding frequency class is the number of times flooding occurs over a period of time. The classes of flooding are defined as follows:
None.—There is no reasonable possibility of flooding. There is a near 0 percent chance of flooding in any year or flooding occurs less than 1 time in 500 years.
Very rare.—Flooding is very unlikely but possible under extremely unusual weather conditions. There is a less than 1 percent chance of flooding in any year or flooding occurs less than 1 time in 100 years but at least 1 time in 500 years.
Rare.—Flooding unlikely but possible under unusual weather conditions. There is a 1 to 5 percent chance of flooding in any year or flooding occurs nearly 1 to 5 times in 100 years.
Occasional.—Flooding is expected infrequently under usual weather conditions. There is a 5 to 50 percent chance of flooding in any year or flooding occurs more than 5 to 50 times in 100 years.
Frequent.—Flooding is likely to occur often under usual weather conditions. There is a more than a 50 percent chance of flooding in any year or flooding occurs more than 50 times in 100 years, but there is a less than a 50 percent chance of flooding in all months in any year.
Very frequent.—Flooding is likely to occur very often under usual weather conditions. There is a more than a 50 percent chance of flooding in all months of any year.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially. Flood plains can be subdivided as follows:
Low level flood plain.—A flood plain that is susceptible to frequent flooding.
Low to intermediate level flood plain.—A flood plain that is susceptible to occasional flooding.
High level flood plain.—A flood plain that is susceptible to rare flooding.

Flood plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

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.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Internal free water occurrence classes. Classes for the description of free water regime in soils. The term free water occurrence is used instead of satiated wet in order to facilitate discussion of interpretations. Classes are provided for internal free water occurrence that describes thickness if perched, depth to the upper boundary, and the aggregate time present in the calendar year. The free water need be present only in some parts of the horizon or layer to be recognized. If not designated as perched, it is assumed that the zone of free water occurs in all horizons or layers to a depth of 2 meters or to the depth of observations. Furthermore, artesian effects may be noted.

Classes (thickness if perched)	Criteria
Extremely thin	less than 10 cm
Very thin	10 to 30 cm
Thin	30 cm to 1 m
Thick	1 m or more
Depth	
Very shallow	less than 25 cm
Shallow	25 cm to 50 cm
Moderately deep	50 cm to 1 m
Deep	1 to 1.5 m
Very deep	1.5 m or more
Cummulative Annual Duration	
Absent	not observed
Very transitory	present less than 1 month
Transitory	present 1 to 3 months
Common	present 3 to 6 months
Persistent	present 6 to 12 months
Permanent	present continuously

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. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. 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.

Live stakes. Living, woody plant cuttings capable of rooting with relative ease. Used for streambank stabilization; willow species usually work best. The cuttings are large enough and long enough to be tamped into the ground as stakes. They are intended to root and grow into mature shrubs that, over time, will serve to stabilize the soils and restore riparian zone habitats. (Definition from http://gaswcc.georgia.gov)

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

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 generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) 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. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Mudstone. A blocky or massive, fine-grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

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. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower-lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturated hydraulic conductivity (K_{sat}). The amount of water that would move vertically through a unit area of saturated soil in unit time under unit hydraulic gradient. Terms describing saturated hydraulic conductivity, measured in inches per hour (micrometers per second), are as follows:

Very low	0.0 to 0.001417 (0.0 to 0.01)
Low	0.001417 to 0.01417 (0.01 to 0.1)
Moderately low	0.01417 to 0.1417 (0.1 to 1.0)
Moderately high	0.1417 to 1.417 (1.0 to 10)
High	1.417 to 14.7 (10 to 100)
Very high	more than 14.7 (more than 100)

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 7 percent
Strongly sloping	7 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 45 percent
Very steep	45 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil crusts. Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.

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 (plural, sola). The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

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 (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion. A terrace susceptible to flooding is subdivided as follows:

Low stream terrace.—A terrace that is susceptible to flooding.

High stream terrace.—A terrace that is not susceptible to flooding.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1961-90 at Rocky Mount, Virginia)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temp. higher than--	2 years in 10 will have-- Minimum temp. lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	43.9	23.6	33.8	69	-1	6	3.10	1.67	4.37	6	6.6
February-	47.8	25.6	36.7	73	6	14	3.10	1.37	4.57	6	6.0
March----	57.4	33.4	45.4	82	15	61	3.80	2.27	5.16	7	2.6
April----	67.5	41.4	54.4	88	24	182	3.71	1.96	5.26	6	0.2
May------	75.7	50.1	62.9	91	31	398	4.11	2.56	5.50	7	0.0
June-----	83.1	58.6	70.9	95	41	610	3.57	1.77	5.14	6	0.0
July-----	86.4	63.1	74.8	98	49	757	4.98	2.69	7.00	7	0.0
August---	85.0	62.0	73.5	96	48	721	4.30	2.55	5.87	6	0.0
September	78.7	55.2	66.9	93	32	506	4.09	1.52	6.24	5	0.0
October--	68.5	43.2	55.8	85	25	215	4.07	1.66	6.10	5	0.0
November-	58.6	35.3	47.0	79	16	67	3.24	1.61	4.65	5	0.9
December-	47.9	27.6	37.8	71	5	18	3.00	1.27	4.48	5	3.2
Yearly:											
Average	66.7	43.3	55.0	---	---	---	---	---	---	---	---
Extreme	102	-11	---	99	-2	---	---	---	---	---	---
Total--	---	---	---	---	---	3,555	45.07	38.04	50.17	71	19.5

* 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 Rocky Mount, Virginia)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 6	Apr. 26	May 10
2 years in 10 later than--	Apr. 1	Apr. 20	May 4
5 years in 10 later than--	Mar. 22	Apr. 9	Apr. 24
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 23	Oct. 12	Sept. 29
2 years in 10 earlier than--	Oct. 29	Oct. 19	Oct. 4
5 years in 10 earlier than-	Nov. 10	Oct. 31	Oct. 15

Table 3.—Growing Season

(Recorded in the period 1961-90 at Rocky Mount, Virginia)

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	207	181	148
8 years in 10	215	189	157
5 years in 10	230	204	174
2 years in 10	245	219	192
1 year in 10	252	226	201

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1C	Ashe-Edneyville-Peaks complex, 8 to 15 percent slopes, very stony	541	0.1
2D	Ashe-Peaks-Edneyville complex, 15 to 25 percent slopes, very stony	979	0.2
3D	Bluemount-Redbrush-Spriggs complex, 15 to 25 percent slopes, stony	3,261	0.7
4E	Bluemount-Spriggs complex, 25 to 45 percent slopes, stony	10,529	2.3
5C	Bluemount-Spriggs-Redbrush complex, 8 to 15 percent slopes, stony	1,331	0.3
6C	Brownwood-Chandler complex, 8 to 15 percent slopes, very stony	119	*
6D	Brownwood-Chandler complex, 15 to 25 percent slopes, very stony	296	*
6E	Brownwood-Chandler complex, 25 to 45 percent slopes, very stony	2,143	0.5
6F	Brownwood-Chandler complex, 45 to 95 percent slopes, very stony	2,942	0.6
7B	Clifford fine sandy loam, 2 to 8 percent slopes	10,608	2.3
7C	Clifford fine sandy loam, 8 to 15 percent slopes	116,337	25.6
7D	Clifford fine sandy loam, 15 to 25 percent slopes	71,719	15.8
8E	Clifford-Hickoryknob complex, 25 to 45 percent slopes	57,611	12.7
9C	Clifford-Urban land complex, 8 to 15 percent slopes	832	0.2
10B	Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded	4,005	0.9
11A	Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes	15,223	3.3
12C	Cowee-Cliffield-Evard complex, 8 to 15 percent slopes, very rocky	3	*
12D	Cowee-Cliffield-Evard complex, 15 to 25 percent slopes, very rocky	9	*
12E	Cowee-Cliffield-Evard complex, 25 to 45 percent slopes, very rocky	79	*
13D	Cullasaja-Tuckasegee complex, 15 to 25 percent slopes, very stony	2,105	0.5
13E	Cullasaja-Tuckasegee complex, 25 to 60 percent slopes, very stony	1,849	0.4
14C	Cullasaja-Tuckasegee-Dellwood complex, 0 to 15 percent slopes, very stony	362	*
15E	Drapermill gravelly loam, 25 to 60 percent slopes	4,343	1.0
16C	Edneytown-Sauratown complex, 8 to 15 percent slopes, very stony	791	0.2
16D	Edneytown-Sauratown complex, 15 to 25 percent slopes, very stony	1,087	0.2
16E	Edneytown-Sauratown complex, 25 to 45 percent slopes, very stony	6,307	1.4
16F	Edneytown-Sauratown complex, 45 to 95 percent slopes, very stony	3,050	0.7
17B	Elsinboro-Colescreek complex, 2 to 8 percent slopes, rarely flooded	1,639	0.4
18E	Goblintown-Drapermill-Penhook complex, 25 to 60 percent slopes	381	*
19C	Hayesville loam, 8 to 15 percent slopes	3,125	0.7
19D	Hayesville loam, 15 to 25 percent slopes	2,592	0.6
20E	Hayesville loam, 25 to 45 percent slopes, very stony	6,209	1.4
21F	Hickoryknob-Rhodhiss complex, 45 to 75 percent slopes, rocky	2,576	0.6
22C	Hickoryknob-Rhodhiss-Stott Knob complex, 8 to 15 percent slopes	778	0.2
22D	Hickoryknob-Rhodhiss-Stott Knob complex, 15 to 25 percent slopes	1,835	0.4
22E	Hickoryknob-Rhodhiss-Stott Knob complex, 25 to 60 percent slopes	11,828	2.6
23A	Iotla-Maggodee-Colescreek complex, 0 to 4 percent slopes	2,322	0.5
24B	Jackland-Mirerock-Redbrush complex, 2 to 8 percent slopes	429	*
24C	Jackland-Mirerock-Redbrush complex, 8 to 15 percent slopes	2,027	0.4
25C	Littlejoe-Penhook-Goblintown complex, 8 to 15 percent slopes	189	*
25D	Littlejoe-Penhook-Goblintown complex, 15 to 25 percent slopes	150	*
26C	Littlejoe-Strawfield-Penhook complex, 8 to 15 percent slopes	4,623	1.0
26D	Littlejoe-Strawfield-Penhook complex, 15 to 25 percent slopes	2,528	0.6
27B	Minnieville loam, 2 to 8 percent slopes	835	0.2
27C	Minnieville loam, 8 to 15 percent slopes	7,696	1.7
27D	Minnieville loam, 15 to 25 percent slopes	5,373	1.2
27E	Minnieville loam, 25 to 45 percent slopes	1,492	0.3
28C	Minnieville-Orenda-Redbrush complex, 8 to 15 percent slopes	2,368	0.5
28D	Minnieville-Orenda-Redbrush complex, 15 to 25 percent slopes	2,331	0.5
29C	Minnieville-Urban land complex, 8 to 15 percent slopes	267	*
30C	Myersville loam, 8 to 15 percent slopes, very stony	145	*
30D	Myersville loam, 15 to 25 percent slopes, very stony	510	0.1
31E	Myersville-Walnut complex, 25 to 45 percent slopes, very stony	1,847	0.4
32F	Myersville-Walnut complex, 45 to 95 percent slopes, very stony, rocky	1,036	0.2
33E	Peaks-Ashe-Edneyville complex, 25 to 45 percent slopes, very stony	7,504	1.6
33F	Peaks-Ashe-Edneyville complex, 45 to 95 percent slopes, very stony	5,668	1.2
34F	Siloam-Bluemount complex, 45 to 75 percent slopes, stony, rocky	393	*
35C	Thurmont-Urban land-Wintergreen complex, 8 to 15 percent slopes	218	*
36B	Thurmont-Wintergreen complex, 2 to 8 percent slopes	248	*
36C	Thurmont-Wintergreen complex, 8 to 15 percent slopes	2,278	0.5
36D	Thurmont-Wintergreen complex, 15 to 25 percent slopes	172	*

See footnote at end of table.

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

Map symbol	Soil name	Acres	Percent
37E	Trimont-Porters complex, 25 to 45 percent slopes, very stony	737	0.2
37F	Trimont-Porters complex, 45 to 95 percent slopes, very stony	2,130	0.5
38C	Watauga-Brownwood complex, 8 to 15 percent slopes	943	0.2
38D	Watauga-Brownwood complex, 15 to 25 percent slopes	1,286	0.3
38E	Watauga-Brownwood complex, 25 to 45 percent slopes	3,038	0.7
39B	Wintergreen loam, 2 to 8 percent slopes	2,101	0.5
39C	Wintergreen loam, 8 to 15 percent slopes	6,702	1.5
39D	Wintergreen loam, 15 to 25 percent slopes	1,661	0.4
40C	Woolwine-Fairview-Westfield complex, 8 to 15 percent slopes, stony	5,974	1.3
40D	Woolwine-Fairview-Westfield complex, 15 to 25 percent slopes, stony	5,452	1.2
40E	Woolwine-Fairview-Westfield complex, 25 to 60 percent slopes, stony	9,558	2.1
W	Water	13,645	3.0
	Total	455,300	100.0

* Less than 0.1 percent.

Table 5.—Map Unit Composition, Statistics, and Methods

Map unit symbol	Major components and dissimilar soils	Number of observa-tions	Average (%)	Confidence interval (%)	Methods used	Remarks
1C	Ashe	34	40	35-45	Statistical method, random points	
	Edneyville	26	30	25-35		
	Peaks	16	20	15-25		
	Dissimilar Soils	11	10	5-15		
2D	Ashe	27	40	35-45	Statistical method, random points	
	Peaks	22	35	30-40		
	Edneyville	15	20	15-25		
	Dissimilar Soils	2	5	0-10		
3D	Bluemount	11	35	25-35	Statistical method, random points	
	Redbrush	9	30	25-35		
	Spriggs	5	15	10-20		
	Dissimilar Soils	8	20	15-25		
4E	Bluemount	27	50	45-55	Statistical method, random points	
	Spriggs	14	25	20-30		
	Dissimilar Soils	13	25	20-30		
5C	Bluemount	19	55	50-60	Statistical method, random points	
	Spriggs	7	20	15-25		
	Redbrush	5	15	10-20		
	Dissimilar Soils	5	10	5-15		
6C	Brownwood	17	50	45-55	Statistical method, random points	
	Chandler	14	40	35-45		
	Dissimilar Soils	3	10	5-15		
6D	Brownwood	23	60	55-65	Statistical method, random points	
	Chandler	12	30	25-35		
	Dissimilar Soils	3	10	5-15		
6E	Brownwood	32	50	45-55	Statistical method, random points	Data from 6E and 6F combined
	Chandler	22	35	30-40		
	Dissimilar Soils	11	15	10-20		
6F	Brownwood	32	50	45-55	Informed judgment	Data from 6E and 6F combined
	Chandler	22	35	30-40		
	Dissimilar Soils	11	15	10-20		
7B	Clifford	708	95	90-100	Informed judgment	Data from 7B and 7C combined
	Dissimilar Soils	51	5	0-10		
7C	Clifford	708	95	90-100	Statistical method, random points	Data from 7B and 7C combined
	Dissimilar Soils	51	5	0-10		
7D	Clifford	249	90	85-95	Statistical method, random points	
	Dissimilar Soils	33	10	5-15		

Table 5.—Map Unit Composition, Statistics, and Methods—Continued

Map unit symbol	Major components and dissimilar soils	Number of observa-tions	Average (%)	Confidence interval (%)	Methods used	Remarks
8E	Clifford	277	75	70-80	Statistical method, random points	
	Hickoryknob	62	15	10-20		
	Dissimilar Soils	35	10	5-15		
9C	Clifford		75	70-80	Informed judgment	Photo interpretation, data from non-urban map units (7B and 7C) used
	Urban Land		20	15-25		
	Dissimilar Soils		5	0-10		
10B	Colescreek	33	50	45-55	Statistical method, random points	
	Delanco	22	30	25-35		
	Dissimilar Soils	14	20	15-25		
11A	Comus	40	45	40-55	Statistical method, random points	
	Maggodee	17	20	15-25		
	Elsinboro	16	20	15-25		
	Dissimilar Soils	13	15	10-20		
12C	Cowee		40	35-45	Informed judgment	This map unit is used to join an adjacent survey and is not extensive
	Cliffield		25	20-30		
	Evard		25	20-30		
	Dissimilar Soils		10	5-15		
12D	Cowee		40	35-45	Informed judgment	This map unit is used to join an adjacent survey and is not extensive
	Cliffield		25	20-30		
	Evard		25	20-30		
	Dissimilar Soils		10	5-15		
12E	Cowee		40	35-45	Informed judgment	This map unit is used to join an adjacent survey and is not extensive
	Cliffield		25	20-30		
	Evard		25	20-30		
	Dissimilar Soils		10	5-15		
13D	Cullasaja	18	55	50-60	Informed judgment	Data from 13D and 13E combined
	Tuckasegee	10	30	25-35		
	Dissimilar Soils	4	15	10-20		
13E	Cullasaja	18	55	50-60	Informed judgment	Data from 13D and 13E combined
	Tuckasegee	10	30	25-35		
	Dissimilar Soils	4	15	10-20		
14C	Cullasaja		40	35-45	Informed judgment	Field notes used
	Tuckasegee		25	20-30		
	Dellwood		20	15-25		
	Dissimilar Soils		15	10-20		
15E	Drapermill	24	85	80-90	Statistical method, random points	
	Dissimilar Soils	4	15	10-20		
16C	Edneytown	33	65	60-70	Statistical method, random points	
	Sauratown	12	25	20-30		
	Dissimilar Soils	4	10	5-15		

Table 5.—Map Unit Composition, Statistics, and Methods—Continued

Map unit symbol	Major components and dissimilar soils	Number of observa-tions	Average (%)	Confidence interval (%)	Methods used	Remarks
16D	Edneytown	34	70	65-75	Statistical method, random points	
	Sauratown	11	25	20-30		
	Dissimilar Soils	3	5	0-10		
16E	Edneytown	52	65	60-70	Statistical method, random points	Data from 16E and 16F combined
	Sauratown	18	25	20-30		
	Dissimilar Soils	10	10	5-15		
16F	Edneytown	52	65	60-70	Informed judgment	Data from 16E and 16F combined
	Sauratown	18	25	20-30		
	Dissimilar Soils	10	10	5-15		
17B	Elsinboro	42	70	65-75	Statistical method, random points	
	Colescreek	13	20	15-25		
	Dissimilar Soils	3	10	5-15		
18E	Goblintown	14	45	40-50	Informed judgment	Field notes used. In addition to Franklin County data, data from adjacent survey used
	Drapermill	6	20	15-25		
	Penhook	3	10	5-15		
	Dissimilar Soils	7	25	20-30		
19C	Hayesville	124	85	80-90	Statistical method, random points	Data from 19C, 19D, and 20E combined
	Dissimilar Soils	26	15	15		
19D	Hayesville	124	85	80-90	Statistical method, random points	Data from 19C, 19D, and 20E combined
	Dissimilar Soils	26	15	15		
20E	Hayesville	124	85	80-90	Statistical method, random points	Data from 19C, 19D, and 20E combined
	Dissimilar Soils	26	15	15		
21F	Hickoryknob	27	75	70-80	Statistical method, random points	
	Rhodhiss	6	15	10-20		
	Dissimilar Soils	4	10	5-15		
22C	Hickoryknob	8	35	30-40	Informed judgment	Data from 22C and 22D combined
	Rhodhiss	7	30	25-35		
	Stott Knob	6	25	20-30		
	Dissimilar Soils	4	10	5-15		
22D	Hickoryknob	8	35	30-40	Informed judgment	Data from 22C and 22D combined
	Rhodhiss	7	30	25-35		
	Stott Knob	6	25	20-30		
	Dissimilar Soils	4	10	5-15		
22E	Hickoryknob	26	45	40-50	Statistical method, random points	
	Rhodhiss	16	25	20-30		
	Stott Knob	13	20	15-25		
	Dissimilar Soils	5	10	5-15		

Table 5.—Map Unit Composition, Statistics, and Methods—Continued

Map unit symbol	Major components and dissimilar soils	Number of observations	Average (%)	Confidence interval (%)	Methods used	Remarks
23A	Iotla Maggodee Colescreek Dissimilar Soils	12 10 10 6	30 25 25 20	25-35 20-30 20-30 15-25	Statistical method, random points	
24B	Jackland Mirerock Redbrush Dissimilar Soils	11 10 6 6	35 30 20 15	30-40 25-25 15-25 10-20	Informed judgment	Data from 24B and 24C combined
24C	Jackland Mirerock Redbrush Dissimilar Soils	11 10 6 6	35 30 20 15	30-40 25-25 15-25 10-20	Statistical method, random points	Data from 24B and 24C combined
25C	Littlejoe Penhook Goblintown Dissimilar Soils	10 8 4 2	40 35 15 10	35-45 30-40 10-20 5-15	Informed judgment	Field notes used, data from 25C and 25D combined. In addition to Franklin County data, data from adjacent survey used
25D	Littlejoe Penhook Goblintown Dissimilar Soils	10 8 4 2	40 35 15 10	35-45 30-40 10-20 5-15	Informed judgment	Field notes used, data from 25C and 25D combined. In addition to Franklin County data, data from adjacent survey used
26C	Littlejoe Strawfield Penhook Dissimilar Soils	25 19 16 5	40 30 25 5	35-45 25-35 20-30 0-10	Statistical method, random points	Data from 26C and 26D combined. In addition to Franklin County data, data from adjacent survey used
26D	Littlejoe Strawfield Penhook Dissimilar Soils	25 19 16 5	40 30 25 5	35-45 25-35 20-30 0-10	Informed judgment	Data from 26C and 26D combined. In addition to Franklin County data, data from adjacent survey used
27B	Minnieville Dissimilar Soils	57 5	90 10	85-95 5-15	Informed judgment	Data from 27B, 27C, 27D, and 27E combined
27C	Minnieville Dissimilar Soils	57 5	90 10	85-95 5-15	Statistical method, random points	Data from 27B, 27C, 27D, and 27E combined
27D	Minnieville Dissimilar Soils	57 5	90 10	85-95 5-15	Informed judgment	Data from 27B, 27C, 27D, and 27E combined
27E	Minnieville Dissimilar Soils	57 5	90 10	85-95 5-15	Informed judgment	Data from 27B, 27C, 27D, and 27E combined
28C	Minnieville Orenda Redbrush Dissimilar Soils	14 8 7 1	45 25 25 5	40-50 20-30 20-30 0-10	Informed judgment	Data from 28C and 28D combined

Table 5.—Map Unit Composition, Statistics, and Methods—Continued

Map unit symbol	Major components and dissimilar soils	Number of observa-tions	Average (%)	Confidence interval (%)	Methods used	Remarks
28D	Minnieville	14	45	40-50	Informed judgment	Data from 28C and 28D combined
	Orenda	8	25	20-30		
	Redbrush	7	25	20-30		
	Dissimilar Soils	1	5	0-10		
29C	Minnieville		75	70-80	Informed judgment	Photo interpretation, data from non-urban map units (27C) used
	Urban Land		20	15-25		
	Dissimilar Soils		5	0-10		
30C	Myersville	8	90	85-95	Subjective judgment	Data from 30C and 30D combined
	Dissimilar Soils	1	10	5-15		
30D	Myersville	8	90	85-95	Subjective judgment	Data from 30C and 30D combined
	Dissimilar Soils	1	10	5-15		
31E	Myersville	6	45	40-50	Informed judgment	Data from 31E and 32F combined
	Walnut	5	35	30-40		
	Dissimilar Soils	3	20	15-25		
32F	Myersville	6	45	40-50	Informed judgment	Data from 31E and 32F combined
	Walnut	5	35	30-40		
	Dissimilar Soils	3	20	15-25		
33E	Peaks	66	40	35-45	Statistical method, random points	Data from 33E and 33F combined
	Ashe	58	35	30-40		
	Edneyville	38	20	15-25		
	Dissimilar Soils	13	5	0-10		
33F	Peaks	66	40	35-45	Informed judgment	Data from 33E and 33F combined
	Ashe	58	35	30-40		
	Edneyville	38	20	15-25		
	Dissimilar Soils	13	5	0-10		
34F	Siloam	6	65	60-70	Subjective judgment	
	Bluemount	2	20	15-25		
	Dissimilar Soils	1	15	10-20		
35C	Thurmont		55	50-60	Informed judgment	Photo interpretation, data from non-urban map units (36C) used
	Urban Land		20	15-25		
	Wintergreen		15	10-20		
	Dissimilar Soils		10	5-15		
36B	Thurmont	30	65	60-70	Informed judgment	Data from 36B, 36C, and 36D combined
	Wintergreen	9	20	15-25		
	Dissimilar Soils	6	15	10-20		
36C	Thurmont	30	65	60-70	Statistical method, random points	Data from 36B, 36C, and 36D combined
	Wintergreen	9	20	15-25		
	Dissimilar Soils	6	15	10-20		

Table 5.—Map Unit Composition, Statistics, and Methods—Continued

Map unit symbol	Major components and dissimilar soils	Number of observa-tions	Average (%)	Confidence interval (%)	Methods used	Remarks
36D	Thurmont	30	65	60-70	Informed judgment	Data from 36B, 36C, and 36D combined
	Wintergreen	9	20	15-25		
	Dissimilar Soils	6	15	10-20		
37E	Trimont	7	45	40-50	Informed judgment	Data from 37E and 37F combined
	Porters	5	35	30-40		
	Dissimilar Soils	3	20	15-25		
37F	Trimont	7	45	40-50	Informed judgment	Data from 37E and 37F combined
	Porters	5	35	30-40		
	Dissimilar Soils	3	20	15-25		
38C	Watauga	58	60	55-65	Statistical method, random points	Data from 38C, 38D, and 38E combined
	Brownwood	35	35	30-40		
	Dissimilar Soils	2	5	0-10		
38D	Watauga	58	60	55-65	Informed judgment	Data from 38C, 38D, and 38E combined
	Brownwood	35	35	30-40		
	Dissimilar Soils	2	5	0-10		
38E	Watauga	58	60	55-65	Informed judgment	Data from 38C, 38D, and 38E combined
	Brownwood	35	35	30-40		
	Dissimilar Soils	2	5	0-10		
39B	Wintergreen	30	95	90-100	Statistical method, random points	
	Dissimilar Soils	1	5	0-10		
39C	Wintergreen	89	95	90-100	Statistical method, random points	
	Dissimilar Soils	2	5	0-10		
39D	Wintergreen	20	90	85-95	Informed judgment	
	Dissimilar Soils	2	10	5-15		
40C	Woolwine	152	50	45-55	Statistical method, random points	In addition to Franklin County data, data from adjacent survey used
	Fairview	98	30	25-35		
	Westfield	38	15	10-20		
	Dissimilar Soils	16	5	0-10		
40D	Woolwine	55	55	50-60	Statistical method, random points	In addition to Franklin County data, data from adjacent survey used
	Fairview	27	25	20-30		
	Westfield	13	15	10-20		
	Dissimilar Soils	8	5	0-10		
40E	Woolwine	57	45	40-50	Statistical method, random points	In addition to Franklin County data, data from adjacent survey used
	Fairview	29	25	20-30		
	Westfield	12	10	5-15		
	Dissimilar Soils	23	20	15-25		

Note: All statistics based on 90 percent confidence level. Average composition and confidence intervals (range) rounded to the nearest 5.

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
1C:							
Ashe	7s	GG	---	---	---	---	---
Edneyville	7s	GG	---	---	---	---	---
Peaks	7s	JJ	---	---	---	---	---
2D:							
Ashe	7s	GG	---	---	---	---	---
Peaks	7s	JJ	---	---	---	---	---
Edneyville	7s	GG	---	---	---	---	---
3D:							
Bluemount	6s	JJ	---	---	---	---	---
Redbrush	6s	Y	---	---	---	---	---
Spriggs	6s	JJ	---	---	---	---	---
4E:							
Bluemount	7e	JJ	---	---	---	---	---
Spriggs	7e	JJ	---	---	---	---	---
5C:							
Bluemount	4s	JJ	---	---	---	---	---
Spriggs	4s	JJ	---	---	---	---	---
Redbrush	4s	Y	---	---	---	---	---
6C:							
Brownwood	7s	JJ	---	---	---	---	---
Chandler	7s	FF	---	---	---	---	---
6D:							
Brownwood	7s	JJ	---	---	---	---	---
Chandler	7s	FF	---	---	---	---	---
6E:							
Brownwood	7e	JJ	---	---	---	---	---
Chandler	7e	FF	---	---	---	---	---
6F:							
Brownwood	7e	JJ	---	---	---	---	---
Chandler	7e	FF	---	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
7B:							
Clifford----------	2e	X	4.0	70	100	20.0	3.5
7C:							
Clifford----------	3e	X	3.5	62	88	18.0	3.1
7D:							
Clifford----------	4e	X	3.2	56	80	16.0	2.8
8E:							
Clifford----------	7e	X	---	---	---	---	---
Hickoryknob-------	7e	N	---	---	---	---	---
9C:							
Clifford----------	3e	X	3.5	62	88	18.0	3.1
Urban land--------	8s	---	---	---	---	---	---
10B:							
Colescreek--------	2e	L	4.0	80	130	24.0	4.0
Delanco-----------	4w	B	5.5	90	160	23.0	4.5
11A:							
Comus-------------	1	A	6.0	80	160	27.0	4.5
Maggodee----------	2w	A	6.0	80	160	25.0	4.5
Elsinboro---------	2e	L	4.0	80	130	26.0	4.0
12C:							
Cowee-------------	6s	N	---	---	---	---	---
Cliffield---------	6s	X	---	---	---	---	---
Evard-------------	6s	L	---	---	---	---	---
12D:							
Cowee-------------	6s	N	---	---	---	---	---
Cliffield---------	6s	X	---	---	---	---	---
Evard-------------	6s	L	---	---	---	---	---
12E:							
Cowee-------------	7e	N	---	---	---	---	---
Cliffield---------	7e	X	---	---	---	---	---
Evard-------------	7e	L	---	---	---	---	---
13D:							
Cullasaja---------	7s	FF	---	---	---	---	---
Tuckasegee--------	7s	G	---	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
13E:							
Cullasaja---------	7e	FF	---	---	---	---	---
Tuckasegee--------	7e	G	---	---	---	---	---
14C:							
Cullasaja---------	7s	FF	---	---	---	---	---
Tuckasegee--------	7s	G	---	---	---	---	---
Dellwood----------	6s	CC	---	---	---	---	---
15E:							
Drapermill--------	7e	U	---	---	---	---	---
16C:							
Edneytown---------	7s	L	---	---	---	---	---
Sauratown---------	7s	CC	---	---	---	---	---
16D:							
Edneytown---------	7e	L	---	---	---	---	---
Sauratown---------	7s	CC	---	---	---	---	---
16E:							
Edneytown---------	7e	L	---	---	---	---	---
Sauratown---------	7e	CC	---	---	---	---	---
16F:							
Edneytown---------	7e	L	---	---	---	---	---
Sauratown---------	7e	CC	---	---	---	---	---
17B:							
Elsinboro---------	2e	L	4.0	80	130	26.0	4.0
Colescreek--------	2e	L	4.0	80	130	24.0	4.0
18E:							
Goblintown--------	7e	V	---	---	---	---	---
Drapermill--------	7e	U	---	---	---	---	---
Penhook-----------	7e	X	---	---	---	---	---
19C:							
Hayesville--------	3e	X	3.5	62	88	18.0	3.1
19D:							
Hayesville--------	4e	X	3.2	56	80	17.0	2.8
20E:							
Hayesville--------	7e	X	---	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
21F:							
Hickoryknob-------	7e	N	---	---	---	---	---
Rhodhiss----------	7e	X	---	---	---	---	---
22C:							
Hickoryknob-------	3e	N	4.8	70	114	16.0	3.5
Rhodhiss----------	3e	X	3.5	62	88	15.0	3.1
Stott Knob--------	3e	N	4.8	70	114	16.0	3.5
22D:							
Hickoryknob-------	4e	N	4.4	64	104	15.0	3.2
Rhodhiss----------	4e	X	3.2	56	80	14.0	2.8
Stott Knob--------	4e	N	4.4	64	104	15.0	3.2
22E:							
Hickoryknob-------	7e	N	---	---	---	---	---
Rhodhiss----------	7e	X	---	---	---	---	---
Stott Knob--------	7e	N	---	---	---	---	---
23A:							
Iotla-------------	4w	A	6.0	80	160	23.0	4.5
Maggodee----------	2w	A	6.0	80	160	25.0	4.5
Colescreek--------	2e	L	4.0	80	130	24.0	4.0
24B:							
Jackland----------	4w	KK	---	40	65	13.0	3.0
Mirerock----------	2e	KK	---	40	65	15.0	3.0
Redbrush----------	2e	Y	---	60	100	15.0	3.5
24C:							
Jackland----------	4w	KK	---	35	57	11.0	2.6
Mirerock----------	3e	KK	---	35	57	13.0	2.6
Redbrush----------	3e	Y	---	53	88	13.0	3.1
25C:							
Littlejoe---------	3e	V	3.5	62	88	16.0	3.1
Penhook-----------	3e	X	3.5	62	88	17.0	3.1
Goblintown--------	3e	V	3.5	62	88	15.0	3.1
25D:							
Littlejoe---------	4e	V	3.2	56	80	15.0	2.8
Penhook-----------	4e	X	3.2	56	80	16.0	2.8
Goblintown--------	4e	V	3.2	56	80	14.0	2.8

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
26C:							
Littlejoe---------	3e	V	3.5	62	88	16.0	3.1
Strawfield--------	4e	X	3.5	62	88	14.0	3.1
Penhook-----------	3e	X	3.5	62	88	17.0	3.1
26D:							
Littlejoe---------	4e	V	3.2	56	80	15.0	2.8
Strawfield--------	5e	X	3.2	56	80	13.0	2.8
Penhook-----------	4e	X	3.2	56	80	16.0	2.8
27B:							
Minnieville-------	2e	N	5.5	80	130	21.0	4.0
27C:							
Minnieville-------	3e	N	4.8	70	114	19.0	3.5
27D:							
Minnieville-------	4e	N	4.4	64	104	17.0	3.2
27E:							
Minnieville-------	7e	N	---	---	---	---	---
28C:							
Minnieville-------	3e	N	4.8	70	114	19.0	3.5
Orenda------------	3e	KK	---	35	57	17.0	2.6
Redbrush----------	3e	Y	---	53	88	13.0	3.1
28D:							
Minnieville-------	4e	N	4.4	64	104	18.0	3.2
Orenda------------	4e	KK	---	32	52	16.0	2.4
Redbrush----------	4e	Y	---	48	80	12.0	2.8
29C:							
Minnieville-------	3e	N	4.8	70	114	19.0	3.5
Urban land--------	8s	---	---	---	---	---	---
30C:							
Myersville--------	7s	D	---	---	---	---	---
30D:							
Myersville--------	7s	D	---	---	---	---	---
31E:							
Myersville--------	7e	D	---	---	---	---	---
Walnut------------	7e	GG	---	---	---	---	---
32F:							
Myersville--------	7e	D	---	---	---	---	---
Walnut------------	7e	GG	---	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
33E:							
Peaks-------------	7e	JJ	---	---	---	---	---
Ashe--------------	7e	GG	---	---	---	---	---
Edneyville--------	7e	GG	---	---	---	---	---
33F:							
Peaks-------------	7e	JJ	---	---	---	---	---
Ashe--------------	7e	GG	---	---	---	---	---
Edneyville--------	7e	GG	---	---	---	---	---
34F:							
Siloam------------	7e	JJ	---	---	---	---	---
Bluemount---------	7e	JJ	---	---	---	---	---
35C:							
Thurmont----------	3e	L	3.5	70	114	22.0	3.5
Urban land--------	8s	---	---	---	---	---	---
Wintergreen-------	3e	O	4.8	70	114	21.0	3.5
36B:							
Thurmont----------	2e	L	4.0	80	130	24.0	4.0
Wintergreen-------	2e	O	5.5	80	130	23.0	4.0
36C:							
Thurmont----------	3e	L	3.5	70	114	22.0	3.5
Wintergreen-------	3e	O	4.8	70	114	21.0	3.5
36D:							
Thurmont----------	4e	L	3.2	64	104	21.0	3.2
Wintergreen-------	4e	O	4.4	64	104	20.0	3.2
37E:							
Trimont-----------	7e	FF	---	---	---	---	---
Porters-----------	7e	FF	---	---	---	---	---
37F:							
Trimont-----------	7e	FF	---	---	---	---	---
Porters-----------	7e	FF	---	---	---	---	---
38C:							
Watauga-----------	3e	V	3.5	62	88	17.0	3.1
Brownwood---------	3e	JJ	---	44	57	14.0	2.6
38D:							
Watauga-----------	4e	V	3.2	56	80	---	2.8
Brownwood---------	4e	JJ	---	40	52	---	2.4

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part I—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Barley	Corn	Corn silage	Grass-legume hay
			Tons	Bu	Bu	Tons	Tons
38E:							
Watauga-----------	7e	V	---	---	---	---	---
Brownwood---------	7e	JJ	---	---	---	---	---
39B:							
Wintergreen-------	2e	O	5.5	80	130	23.0	4.0
39C:							
Wintergreen-------	3e	O	4.8	70	114	21.0	3.5
39D:							
Wintergreen-------	4e	O	4.4	64	104	20.0	3.2
40C:							
Woolwine----------	4s	V	---	---	---	---	---
Fairview----------	4s	X	---	---	---	---	---
Westfield---------	4s	X	---	---	---	---	---
40D:							
Woolwine----------	6s	V	---	---	---	---	---
Fairview----------	6s	X	---	---	---	---	---
Westfield---------	6s	X	---	---	---	---	---
40E:							
Woolwine----------	7e	V	---	---	---	---	---
Fairview----------	7e	X	---	---	---	---	---
Westfield---------	7e	X	---	---	---	---	---
W.							
Water							

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II

Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
1C:						
Ashe	7s	GG	7.5	---	---	---
Edneyville	7s	GG	8.0	---	---	---
Peaks	7s	JJ	7.0	---	---	---
2D:						
Ashe	7s	GG	7.0	---	---	---
Peaks	7s	JJ	7.5	---	---	---
Edneyville	7s	GG	6.5	---	---	---
3D:						
Bluemount	6s	JJ	7.0	---	---	---
Redbrush	6s	Y	7.0	---	---	---
Spriggs	6s	JJ	7.0	---	---	---
4E:						
Bluemount	7e	JJ	---	---	---	---
Spriggs	7e	JJ	---	---	---	---
5C:						
Bluemount	4s	JJ	7.5	---	---	---
Spriggs	4s	JJ	7.5	---	---	---
Redbrush	4s	Y	7.5	---	---	---
6C:						
Brownwood	7s	JJ	7.5	---	---	---
Chandler	7s	FF	8.0	---	---	---
6D:						
Brownwood	7s	JJ	---	---	---	---
Chandler	7s	FF	---	---	---	---
6E:						
Brownwood	7e	JJ	---	---	---	---
Chandler	7e	FF	---	---	---	---
6F:						
Brownwood	7e	JJ	---	---	---	---
Chandler	7e	FF	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
7B:						
Clifford----------	2e	X	9.5	35	2600	56
7C:						
Clifford----------	3e	X	9.0	31	2500	50
7D:						
Clifford----------	4e	X	8.5	28	2300	45
8E:						
Clifford----------	7e	X	---	---	---	---
Hickoryknob-------	7e	N	---	---	---	---
9C:						
Clifford----------	3e	X	9.0	31	---	49
Urban land--------	8s	---	---	---	---	---
10B:						
Colescreek--------	2e	L	11.5	40	2700	64
Delanco-----------	4w	B	11.0	50	2500	64
11A:						
Comus-------------	1	A	11.5	50	2700	64
Maggodee----------	2w	A	11.5	50	2500	64
Elsinboro---------	2e	L	11.5	40	2800	64
12C:						
Cowee-------------	6s	N	7.5	---	---	---
Cliffield---------	6s	X	7.0	---	---	---
Evard-------------	6s	L	8.0	---	---	---
12D:						
Cowee-------------	6s	N	7.0	---	---	---
Cliffield---------	6s	X	6.5	---	---	---
Evard-------------	6s	L	7.5	---	---	---
12E:						
Cowee-------------	7e	N	---	---	---	---
Cliffield---------	7e	X	---	---	---	---
Evard-------------	7e	L	---	---	---	---
13D:						
Cullasaja---------	7s	FF	10.0	---	---	---
Tuckasegee--------	7s	G	10.5	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
13E:						
Cullasaja---------	7e	FF	---	---	---	---
Tuckasegee--------	7e	G	---	---	---	---
14C:						
Cullasaja---------	7s	FF	10.5	---	---	---
Tuckasegee--------	7s	G	11.0	---	---	---
Dellwood----------	6s	CC	10.5	---	---	---
15E:						
Drapermill--------	7e	U	---	---	---	---
16C:						
Edneytown---------	7s	L	8.5	---	---	---
Sauratown---------	7s	CC	7.5	---	---	---
16D:						
Edneytown---------	7e	L	8.0	---	---	---
Sauratown---------	7s	CC	7.0	---	---	---
16E:						
Edneytown---------	7e	L	---	---	---	---
Sauratown---------	7e	CC	---	---	---	---
16F:						
Edneytown---------	7e	L	---	---	---	---
Sauratown---------	7e	CC	---	---	---	---
17B:						
Elsinboro---------	2e	L	11.5	40	2800	64
Colescreek--------	2e	L	11.5	40	2600	64
18E:						
Goblintown--------	7e	V	---	---	---	---
Drapermill--------	7e	U	---	---	---	---
Penhook-----------	7e	X	---	---	---	---
19C:						
Hayesville--------	3e	X	9.0	31	---	49
19D:						
Hayesville--------	4e	X	8.5	28	---	45
20E:						
Hayesville--------	7e	X	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
21F:						
Hickoryknob-------	7e	N	---	---	---	---
Rhodhiss----------	7e	X	---	---	---	---
22C:						
Hickoryknob-------	3e	N	7.5	35	---	56
Rhodhiss----------	3e	X	8.5	31	---	49
Stott Knob--------	3e	N	7.5	35	---	56
22D:						
Hickoryknob-------	4e	N	7.0	32	---	51
Rhodhiss----------	4e	X	8.0	28	---	45
Stott Knob--------	4e	N	7.0	32	---	51
22E:						
Hickoryknob-------	7e	N	---	---	---	---
Rhodhiss----------	7e	X	---	---	---	---
Stott Knob--------	7e	N	---	---	---	---
23A:						
Iotla-------------	4w	A	11.0	50	2000	64
Maggodee----------	2w	A	11.5	50	2500	64
Colescreek--------	2e	L	11.0	40	2600	64
24B:						
Jackland----------	4w	KK	5.5	20	1800	32
Mirerock----------	2e	KK	7.5	20	1900	32
Redbrush----------	2e	Y	7.5	35	1900	48
24C:						
Jackland----------	4w	KK	5.0	18	1700	28
Mirerock----------	3e	KK	7.0	18	1800	28
Redbrush----------	3e	Y	7.0	31	1800	42
25C:						
Littlejoe---------	3e	V	7.5	31	2000	49
Penhook-----------	3e	X	8.5	31	2100	49
Goblintown--------	3e	V	7.0	31	1900	49
25D:						
Littlejoe---------	4e	V	7.0	28	---	45
Penhook-----------	4e	X	8.0	28	---	45
Goblintown--------	4e	V	6.5	28	---	45

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
26C:						
Littlejoe---------	3e	V	7.5	31	2000	49
Strawfield--------	4e	X	7.0	31	1800	49
Penhook-----------	3e	X	8.5	31	2100	49
26D:						
Littlejoe---------	4e	V	7.0	28	---	45
Strawfield--------	5e	X	7.0	28	---	45
Penhook-----------	4e	X	8.0	28	---	45
27B:						
Minnieville-------	2e	N	10.0	40	2500	64
27C:						
Minnieville-------	3e	N	9.5	35	2400	56
27D:						
Minnieville-------	4e	N	9.0	32	---	51
27E:						
Minnieville-------	7e	N	---	---	---	---
28C:						
Minnieville-------	3e	N	9.5	35	2400	56
Orenda------------	3e	KK	8.5	17	2000	28
Redbrush----------	3e	Y	7.0	31	1800	42
28D:						
Minnieville-------	4e	N	9.0	32	---	51
Orenda------------	4e	KK	8.0	16	---	26
Redbrush----------	4e	Y	7.0	28	---	38
29C:						
Minnieville-------	3e	N	9.5	35	2400	56
Urban land--------	8s	---	---	---	---	---
30C:						
Myersville--------	7s	D	8.0	---	---	---
30D:						
Myersville--------	7s	D	7.5	---	---	---
31E:						
Myersville--------	7e	D	---	---	---	---
Walnut------------	7e	GG	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
32F:						
Myersville	7e	D	---	---	---	---
Walnut	7e	GG	---	---	---	---
33E:						
Peaks	7e	JJ	---	---	---	---
Ashe	7e	GG	---	---	---	---
Edneyville	7e	GG	---	---	---	---
33F:						
Peaks	7e	JJ	---	---	---	---
Ashe	7e	GG	---	---	---	---
Edneyville	7e	GG	---	---	---	---
34F:						
Siloam	7e	JJ	---	---	---	---
Bluemount	7e	JJ	---	---	---	---
35C:						
Thurmont	3e	L	10.5	35	2600	56
Urban land	8s	---	---	---	---	---
Wintergreen	3e	O	10.5	35	2300	56
36B:						
Thurmont	2e	L	11.0	40	2600	64
Wintergreen	2e	O	11.0	40	2400	64
36C:						
Thurmont	3e	L	10.5	35	2500	56
Wintergreen	3e	O	10.5	35	2300	56
36D:						
Thurmont	4e	L	10.0	32	---	51
Wintergreen	4e	O	10.0	32	---	51
37E:						
Trimont	7e	FF	---	---	---	---
Porters	7e	FF	---	---	---	---
37F:						
Trimont	7e	FF	---	---	---	---
Porters	7e	FF	---	---	---	---

Table 6.—Land Capability Class, Virginia Soil Management Group, and Yields per Acre, Part II—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture	Soybeans	Tobacco	Wheat
			AUM	Bu	Lbs	Bu
38C:						
Watauga-----------	3e	V	8.5	31	---	49
Brownwood---------	3e	JJ	7.5	18	---	35
38D:						
Watauga-----------	4e	V	8.0	28	---	45
Brownwood---------	4e	JJ	7.0	16	---	32
38E:						
Watauga-----------	7e	V	---	---	---	---
Brownwood---------	7e	JJ	---	---	---	---
39B:						
Wintergreen-------	2e	O	11.0	40	2400	64
39C:						
Wintergreen-------	3e	O	10.5	35	2300	56
39D:						
Wintergreen-------	4e	O	10.0	32	---	51
40C:						
Woolwine----------	4s	V	8.0	---	---	---
Fairview----------	4s	X	9.0	---	---	---
Westfield---------	4s	X	8.5	---	---	---
40D:						
Woolwine----------	6s	V	7.5	---	---	---
Fairview----------	6s	X	8.5	---	---	---
Westfield---------	6s	X	8.0	---	---	---
40E:						
Woolwine----------	7e	V	---	---	---	---
Fairview----------	7e	X	---	---	---	---
Westfield---------	7e	X	---	---	---	---
W.						
Water						

Table 7.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Map unit name
7B	Clifford fine sandy loam, 2 to 8 percent slopes
10B	Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded
11A	Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes
17B	Elsinboro-Colescreek complex, 2 to 8 percent slopes, rarely flooded
23A	Iotla-Maggodee-Colescreek complex, 0 to 4 percent slopes
27B	Minnieville loam, 2 to 8 percent slopes
36B	Thurmont-Wintergreen complex, 2 to 8 percent slopes
39B	Wintergreen loam, 2 to 8 percent slopes

Table 8.—Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
1C:					
Ashe	40	Very limited		Very limited	
		Droughty	0.99	Low adsorption	1.00
		Depth to bedrock	0.84	Too acid	1.00
		Slope	0.63	Droughty	0.99
Edneyville	30	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Large stones content	0.47	Slope	0.63
		Too acid	0.32		
Peaks	20	Very limited		Very limited	
		Droughty	1.00	Low adsorption	1.00
		Filtering capacity	0.99	Droughty	1.00
		Slope	0.63	Filtering capacity	0.99
2D:					
Ashe	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.99	Slope	1.00
		Depth to bedrock	0.84	Too acid	1.00
Peaks	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	1.00	Slope	1.00
		Filtering capacity	0.99	Droughty	1.00
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
		Too acid	0.32		
3D:					
Bluemount	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.90	Slope	1.00
		Droughty	0.73	Depth to bedrock	0.90
Redbrush	30	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	0.89	Slope	1.00
		Droughty	0.87	Droughty	0.87
Spriggs	15	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
4E:					
Bluemount-----------	50	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.90	Slope	1.00
		Droughty	0.73	Depth to bedrock	0.90
Spriggs-------------	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91
5C:					
Bluemount-----------	55	Somewhat limited		Very limited	
		Depth to bedrock	0.90	Low adsorption	1.00
		Droughty	0.73	Depth to bedrock	0.90
		Slope	0.63	Droughty	0.73
Spriggs-------------	20	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Depth to bedrock	0.01	Slope	0.63
Redbrush------------	15	Somewhat limited		Very limited	
		Slow water movement	0.89	Low adsorption	1.00
		Droughty	0.87	Droughty	0.87
		Slope	0.63	Slow water movement	0.78
6C:					
Brownwood-----------	50	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Droughty	0.57	Too acid	0.99
		Too acid	0.50	Slope	0.63
Chandler------------	40	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
		Large stones content	0.47		
6D:					
Brownwood-----------	60	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.57	Slope	1.00
		Too acid	0.50	Too acid	0.99
Chandler------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
6E:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.57	Slope	1.00
		Too acid	0.50	Too acid	0.99

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6E:					
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
6F:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.57	Slope	1.00
		Too acid	0.50	Too acid	0.99
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
7B:					
Clifford------------	95	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.01		
7C:					
Clifford------------	95	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
		Low adsorption	0.01		
7D:					
Clifford------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.01		
8E:					
Clifford------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.01		
Hickoryknob---------	15	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.95	Too acid	1.00
9C:					
Clifford------------	75	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
		Low adsorption	0.01		
Urban land----------	20	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
10B:					
Colescreek----------	50	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.02	Flooding	0.40
				Too acid	0.07
Delanco------------	30	Very limited		Very limited	
		Depth to saturated zone	0.99	Too acid	0.99
		Too acid	0.50	Depth to saturated zone	0.99
		Slow water movement	0.41	Flooding	0.40
11A:					
Comus---------------	45	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.32	Too acid	0.91
Maggodee-----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
		Too acid	0.32	Too acid	0.91
Elsinboro----------	20	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
				Flooding	0.40
12C:					
Cowee---------------	40	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.62	Too acid	1.00
		Droughty	0.50	Slope	0.63
Cliffield----------	25	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Cobble content	1.00	Low adsorption	1.00
		Depth to bedrock	0.95	Cobble content	1.00
Evard---------------	25	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
12D:					
Cowee---------------	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.62	Slope	1.00
		Droughty	0.50	Too acid	1.00
Cliffield----------	25	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Low adsorption	1.00
		Cobble content	1.00	Slope	1.00
Evard---------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
12E:					
Cowee	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.62	Slope	1.00
		Droughty	0.50	Too acid	1.00
Cliffield	25	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Low adsorption	1.00
		Cobble content	1.00	Slope	1.00
Evard	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
13D:					
Cullasaja	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
				Cobble content	0.12
		Too acid	0.32		
Tuckasegee	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Cobble content	0.59	Too acid	0.91
		Large stones content	0.47	Cobble content	0.59
13E:					
Cullasaja	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
				Cobble content	0.12
		Too acid	0.32		
Tuckasegee	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Cobble content	0.59	Too acid	0.91
		Large stones content	0.47	Cobble content	0.59
14C:					
Cullasaja	40	Somewhat limited		Somewhat limited	
		Large stones content	0.47	Too acid	0.91
				Slope	0.16
		Too acid	0.32	Cobble content	0.12
		Slope	0.16		
Tuckasegee	25	Somewhat limited		Somewhat limited	
		Cobble content	0.59	Too acid	0.91
		Large stones content	0.47	Cobble content	0.59
				Slope	0.16
		Too acid	0.32		
Dellwood	20	Very limited		Very limited	
		Droughty	1.00	Flooding	1.00
		Filtering capacity	0.99	Droughty	1.00
				Filtering capacity	0.99
		Depth to saturated zone	0.99		

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15E:					
Drapermill----------	85	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.12	Too acid	1.00
16C:					
Edneytown-----------	65	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
		Large stones content	0.47		
Sauratown-----------	25	Somewhat limited		Very limited	
		Droughty	0.97	Low adsorption	1.00
		Depth to bedrock	0.80	Too acid	0.99
		Slope	0.63	Droughty	0.97
16D:					
Edneytown-----------	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.97	Slope	1.00
		Depth to bedrock	0.80	Too acid	0.99
16E:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.97	Slope	1.00
		Depth to bedrock	0.80	Too acid	0.99
16F:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
		Large stones content	0.47		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.97	Slope	1.00
		Depth to bedrock	0.80	Too acid	0.99
17B:					
Elsinboro-----------	70	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
				Flooding	0.40

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17B:					
Colescreek----------	20	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.02	Flooding	0.40
				Too acid	0.07
18E:					
Goblintown----------	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Low adsorption	0.13	Too acid	0.91
Drapermill----------	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.12	Too acid	1.00
Penhook-------------	10	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
19C:					
Hayesville----------	85	Somewhat limited		Very limited	
		Slope	0.63	Too acid	1.00
		Too acid	0.62	Slope	0.63
		Low adsorption	0.26		
19D:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.62	Too acid	1.00
		Low adsorption	0.26		
20E:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.62	Too acid	1.00
		Large stones content	0.47		
21F:					
Hickoryknob---------	75	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.95	Too acid	1.00
Rhodhiss------------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
22C:					
Hickoryknob---------	35	Somewhat limited		Very limited	
		Droughty	0.96	Low adsorption	1.00
		Depth to bedrock	0.95	Too acid	1.00
		Too acid	0.78	Droughty	0.96

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
22C:					
Rhodhiss	30	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
Stott Knob	25	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Droughty	0.09	Slope	0.63
22D:					
Hickoryknob	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.95	Too acid	1.00
Rhodhiss	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
Stott Knob	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Droughty	0.09	Too acid	0.91
22E:					
Hickoryknob	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.95	Too acid	1.00
Rhodhiss	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
Stott Knob	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Droughty	0.09	Too acid	0.91
23A:					
Iotla	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
		Too acid	0.18	Too acid	0.67
Maggodee	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
		Too acid	0.32	Too acid	0.91
Colescreek	25	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.02	Flooding	0.40
				Too acid	0.07

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24B:					
Jackland	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Too acid	0.07
Mirerock	30	Somewhat limited		Very limited	
		Runoff	0.40	Low adsorption	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Droughty	0.11	Droughty	0.11
Redbrush	20	Somewhat limited		Very limited	
		Slow water movement	0.89	Low adsorption	1.00
				Droughty	0.87
		Droughty	0.87	Slow water movement	0.78
		Depth to bedrock	0.46		
24C:					
Jackland	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63
Mirerock	30	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Runoff	0.40	Slope	0.63
		Slow water movement	0.30	Slow water movement	0.22
Redbrush	20	Somewhat limited		Very limited	
		Slow water movement	0.89	Low adsorption	1.00
				Droughty	0.87
		Droughty	0.87	Slow water movement	0.78
		Slope	0.63		
25C:					
Littlejoe	40	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.50	Too acid	0.99
				Slope	0.63
Penhook	35	Somewhat limited		Very limited	
		Too acid	0.78	Too acid	1.00
		Slope	0.63	Slope	0.63
Goblintown	15	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.13	Slope	0.63

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
25D:					
Littlejoe-----------	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.50	Slope	1.00
				Too acid	0.99
Penhook-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Goblintown----------	15	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Low adsorption	0.13	Too acid	0.91
26C:					
Littlejoe-----------	40	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.50	Too acid	0.99
				Slope	0.63
Strawfield----------	30	Somewhat limited		Very limited	
		Depth to bedrock	0.97	Low adsorption	1.00
		Droughty	0.86	Too acid	1.00
		Too acid	0.78	Depth to bedrock	0.97
Penhook-------------	25	Somewhat limited		Very limited	
		Too acid	0.78	Too acid	1.00
		Slope	0.63	Slope	0.63
26D:					
Littlejoe-----------	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.50	Slope	1.00
				Too acid	0.99
Strawfield----------	30	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.97	Slope	1.00
		Droughty	0.86	Too acid	1.00
Penhook-------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
27B:					
Minnieville---------	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.52
27C:					
Minnieville---------	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Slope	0.63	Slope	0.63
		Too acid	0.18	Low adsorption	0.52

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
27D:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.52
27E:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.52
28C:					
Minnieville---------	45	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Slope	0.63	Slope	0.63
		Too acid	0.18	Low adsorption	0.52
Orenda--------------	25	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Slow water movement	0.30	Too acid	0.42
		Too acid	0.11	Slow water movement	0.22
Redbrush------------	25	Somewhat limited		Very limited	
		Slow water movement	0.89	Low adsorption	1.00
		Droughty	0.87	Droughty	0.87
		Slope	0.63	Slow water movement	0.78
28D:					
Minnieville---------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.52
Orenda--------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.30	Too acid	0.42
		Too acid	0.11	Slow water movement	0.22
Redbrush------------	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	0.89	Slope	1.00
		Droughty	0.87	Droughty	0.87
29C:					
Minnieville---------	75	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Slope	0.63	Slope	0.63
		Too acid	0.18	Low adsorption	0.52
Urban land----------	20	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
30C:					
Myersville	90	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Large stones content	0.47	Too acid	0.67
		Too acid	0.18	Slope	0.63
30D:					
Myersville	90	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.47	Slope	1.00
		Too acid	0.18	Too acid	0.67
31E:					
Myersville	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.47	Slope	1.00
		Too acid	0.18	Too acid	0.67
Walnut	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.84	Droughty	0.96
32F:					
Myersville	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.47	Slope	1.00
		Too acid	0.18	Too acid	0.67
Walnut	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.96	Slope	1.00
		Depth to bedrock	0.84	Droughty	0.96
33E:					
Peaks	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	1.00	Slope	1.00
		Filtering capacity	0.99	Droughty	1.00
Ashe	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.99	Slope	1.00
		Depth to bedrock	0.84	Too acid	1.00
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
		Too acid	0.32		

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
33F:					
Peaks	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	1.00	Slope	1.00
		Filtering capacity	0.99	Droughty	1.00
Ashe	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.99	Slope	1.00
		Depth to bedrock	0.84	Too acid	1.00
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
		Too acid	0.32		
34F:					
Siloam	65	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Low adsorption	1.00
		Depth to bedrock	1.00	Slope	1.00
Bluemount	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.90	Slope	1.00
		Droughty	0.73	Depth to bedrock	0.90
35C:					
Thurmont	55	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
Urban land	20	Not rated		Not rated	
Wintergreen	15	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
36B:					
Thurmont	65	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
Wintergreen	20	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
36C:					
Thurmont	65	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
Wintergreen	20	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36D:					
Thurmont------------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
Wintergreen---------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
37E:					
Trimont-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
		Too acid	0.32		
Porters-------------	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.47	Slope	1.00
				Too acid	0.91
		Too acid	0.32		
37F:					
Trimont-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.47	Too acid	0.91
		Too acid	0.32		
Porters-------------	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.47	Slope	1.00
				Too acid	0.91
		Too acid	0.32		
38C:					
Watauga-------------	60	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
Brownwood-----------	35	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Droughty	0.57	Too acid	0.99
		Too acid	0.50	Slope	0.63
38D:					
Watauga-------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
Brownwood-----------	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.57	Slope	1.00
		Too acid	0.50	Too acid	0.99
38E:					
Watauga-------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
38E:					
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.57	Slope	1.00
		Too acid	0.50	Too acid	0.99
39B:					
Wintergreen	95	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
39C:					
Wintergreen	95	Somewhat limited		Very limited	
		Slope	0.63	Too acid	0.99
		Too acid	0.50	Slope	0.63
39D:					
Wintergreen	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	0.99
40C:					
Woolwine	50	Somewhat limited		Very limited	
		Droughty	0.84	Low adsorption	1.00
		Depth to bedrock	0.65	Too acid	1.00
		Slope	0.63	Droughty	0.84
Fairview	30	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
		Low adsorption	0.16		
Westfield	15	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Low adsorption	0.38	Too acid	0.91
		Too acid	0.32	Slope	0.63
40D:					
Woolwine	55	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.84	Slope	1.00
		Depth to bedrock	0.65	Too acid	1.00
Fairview	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.16		
Westfield	15	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Low adsorption	0.38	Slope	1.00
		Too acid	0.32	Too acid	0.91
40E:					
Woolwine	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.84	Slope	1.00
		Depth to bedrock	0.65	Too acid	1.00

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40E:					
Fairview	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.16		
Westfield	10	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Low adsorption	0.38	Slope	1.00
		Too acid	0.32	Too acid	0.91
W:					
Water	100	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1C:					
Ashe	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Droughty	0.99	Too steep for surface application	1.00
Edneyville	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
Peaks	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Filtering capacity	0.99	Too steep for surface application	1.00
2D:					
Ashe	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Peaks	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	1.00	Depth to bedrock	1.00
Edneyville	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
3D:					
Bluemount-----------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	0.90	Depth to bedrock	1.00
Redbrush------------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Droughty	0.87	Depth to bedrock	1.00
Spriggs-------------	15	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
4E:					
Bluemount-----------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	0.90	Depth to bedrock	1.00
Spriggs-------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
5C:					
Bluemount-----------	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Depth to bedrock	0.90	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
5C:					
Spriggs	20	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	1.00
		Too acid	0.91	surface	
		Too steep for	0.78	application	
		sprinkler			
		application			
Redbrush	15	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	1.00
		Droughty	0.87	surface	1.00
		Too steep for	0.78	application	1.00
		sprinkler			
		application			
6C:					
Brownwood	50	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	1.00
		Too acid	0.99	surface	
		Too steep for	0.78	application	
		sprinkler			
		application			
Chandler	40	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too acid	0.99	application	
		Too steep for	0.78	Too acid	0.99
		sprinkler			
		application			
6D:					
Brownwood	60	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Depth to bedrock	1.00
		application			
		Too acid	0.99		
Chandler	30	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	0.99
		application			
		Too acid	0.99		

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
6E:					
Brownwood-----------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
Chandler------------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
6F:					
Brownwood-----------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
Chandler------------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
7B:					
Clifford------------	95	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
		Low adsorption	0.01	Low adsorption	0.01
7C:					
Clifford------------	95	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
7D:					
Clifford	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
8E:					
Clifford	75	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
Hickoryknob	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
9C:					
Clifford	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
Urban land	20	Not rated		Not rated	
10B:					
Colescreek	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.86
		Too acid	0.07	Flooding	0.40
Delanco	30	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Depth to saturated zone	0.99	Too acid	0.99
		Too steep for surface application	0.32	Depth to saturated zone	0.99

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
11A:					
Comus	45	Somewhat limited		Very limited	
		Too acid	0.91	Flooding	1.00
		Flooding	0.60	Seepage	1.00
				Too acid	0.91
Maggodee	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Too acid	0.91	Seepage	1.00
		Flooding	0.60	Depth to saturated zone	1.00
Elsinboro	20	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
				Too acid	0.99
				Flooding	0.40
12C:					
Cowee	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Cliffield	25	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too acid	1.00
Evard	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
12D:					
Cowee	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
12D:					
Cliffield	25	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
Evard	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
12E:					
Cowee	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Cliffield	25	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
Evard	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
13D:					
Cullasaja	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
13D:					
Tuckasegee----------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
13E:					
Cullasaja-----------	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Tuckasegee----------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
14C:					
Cullasaja-----------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Too steep for sprinkler application	0.40	Cobble content	0.87
Tuckasegee----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Cobble content	0.59	Too steep for surface application	0.78
Dellwood------------	20	Very limited		Very limited	
		Droughty	1.00	Flooding	1.00
		Filtering capacity	0.99	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
15E:					
Drapermill----------	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
16C:					
Edneytown-----------	65	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
Sauratown-----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Depth to bedrock	1.00
		Droughty	0.97	Too steep for surface application	1.00
16D:					
Edneytown-----------	70	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
Sauratown-----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
16E:					
Edneytown-----------	65	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
16E:					
Sauratown-----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
16F:					
Edneytown-----------	65	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
Sauratown-----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
17B:					
Elsinboro-----------	70	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.99
				Flooding	0.40
Colescreek----------	20	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.86
		Too acid	0.07	Flooding	0.40
18E:					
Goblintown----------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
18E:					
Drapermill	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Penhook	10	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
19C:					
Hayesville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	1.00
19D:					
Hayesville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
20E:					
Hayesville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
21F:					
Hickoryknob	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
21F:					
Rhodhiss------------	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
22C:					
Hickoryknob---------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Droughty	0.96	Too acid	1.00
Rhodhiss------------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
Stott Knob----------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
22D:					
Hickoryknob---------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Rhodhiss------------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22D:					
Stott Knob	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Depth to bedrock	1.00
22E:					
Hickoryknob	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Rhodhiss	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Stott Knob	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Depth to bedrock	1.00
23A:					
Iotla	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Too acid	0.67	Seepage	1.00
		Flooding	0.60	Depth to saturated zone	1.00
Maggodee	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Too acid	0.91	Seepage	1.00
		Flooding	0.60	Depth to saturated zone	1.00
Colescreek	25	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Seepage	1.00
		Too acid	0.07	Depth to saturated zone	0.86
				Flooding	0.40

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24B:					
Jackland	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.07
Mirerock	30	Somewhat limited		Very limited	
		Too steep for surface application	0.32	Seepage	1.00
		Slow water movement	0.22	Depth to bedrock	1.00
		Droughty	0.11		
Redbrush	20	Somewhat limited		Very limited	
		Droughty	0.87	Seepage	1.00
		Slow water movement	0.78	Depth to bedrock	1.00
		Depth to bedrock	0.46		
24C:					
Jackland	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
Mirerock	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Depth to bedrock	1.00
		Slow water movement	0.22	Too steep for surface application	1.00
Redbrush	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	0.87	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
25C:					
Littlejoe	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
Penhook	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Goblintown	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
25D:					
Littlejoe	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.99	Too acid	0.99
Penhook	35	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
Goblintown	15	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
26C:					
Littlejoe-----------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
Strawfield----------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.97	Too acid	1.00
Penhook-------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
26D:					
Littlejoe-----------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.99	Too acid	0.99
Strawfield----------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
Penhook-------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
27B:					
Minnieville---------	90	Somewhat limited		Very limited	
		Low adsorption	0.71	Seepage	1.00
		Too acid	0.67	Low adsorption	0.71
		Too steep for surface application	0.32	Too acid	0.67
27C:					
Minnieville---------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Low adsorption	0.71	Low adsorption	0.71
27D:					
Minnieville---------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Low adsorption	0.71	Low adsorption	0.71
27E:					
Minnieville---------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Low adsorption	0.71	Low adsorption	0.71
28C:					
Minnieville---------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Low adsorption	0.71	Low adsorption	0.71
Orenda--------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Too acid	0.42	Too acid	0.42

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
28C:					
Redbrush------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	0.87	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
28D:					
Minnieville---------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Low adsorption	0.71	Low adsorption	0.71
Orenda--------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.42	Too acid	0.42
Redbrush------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Droughty	0.87	Depth to bedrock	1.00
29C:					
Minnieville---------	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Low adsorption	0.71	Low adsorption	0.71
Urban land----------	20	Not rated		Not rated	
30C:					
Myersville----------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Too acid	0.67	Too acid	0.67

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
30D:					
Myersville----------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.67	Too acid	0.67
31E:					
Myersville----------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.67	Too acid	0.67
Walnut--------------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	0.96	Depth to bedrock	1.00
32F:					
Myersville----------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.67	Too acid	0.67
Walnut--------------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	0.96	Depth to bedrock	1.00
33E:					
Peaks---------------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
33E:					
Ashe	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Edneyville	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
33F:					
Peaks	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	1.00	Depth to bedrock	1.00
Ashe	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Edneyville	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
34F:					
Siloam	65	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34F:					
Bluemount-----------	20	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	0.90	Depth to bedrock	1.00
35C:					
Thurmont------------	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
Urban land----------	20	Not rated		Not rated	
Wintergreen---------	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
36B:					
Thurmont------------	65	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.99
Wintergreen---------	20	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.99
36C:					
Thurmont------------	65	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
36C:					
Wintergreen	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
36D:					
Thurmont	65	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
Wintergreen	20	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.99	Too acid	0.99
37E:					
Trimont	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
Porters	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Depth to bedrock	0.94
37F:					
Trimont	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
37F:					
Porters	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Depth to bedrock	0.94
38C:					
Watauga	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
Brownwood	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
38D:					
Watauga	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Brownwood	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
38E:					
Watauga	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
38E:					
Brownwood	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
39B:					
Wintergreen	95	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.99
39C:					
Wintergreen	95	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.99
39D:					
Wintergreen	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.99	Too acid	0.99
40C:					
Woolwine	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Droughty	0.84	Too steep for surface application	1.00
Fairview	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
40C:					
Westfield-----------	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78	Too acid	0.91
40D:					
Woolwine------------	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Fairview------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Westfield-----------	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
40E:					
Woolwine------------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Depth to bedrock	1.00
Fairview------------	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40E:					
Westfield-----------	10	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
W:					
Water---------------	100	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
1C:					
Ashe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
Edneyville	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Peaks	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	0.97	Too steep for sprinkler irrigation	1.00
2D:					
Ashe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
Peaks	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.97	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
2D:					
Edneyville----------	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
3D:					
Bluemount-----------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Redbrush------------	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
Spriggs-------------	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
4E:					
Bluemount-----------	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Spriggs-------------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
5C:					
Bluemount	55	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Spriggs	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Redbrush	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
6C:					
Brownwood	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
Chandler	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
6D:					
Brownwood	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
6D:					
Chandler------------	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
6E:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
6F:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
7B:					
Clifford------------	95	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
				Low adsorption	0.01

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
7C:					
Clifford	95	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
7D:					
Clifford	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
8E:					
Clifford	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Hickoryknob	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
9C:					
Clifford	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Urban land	20	Not rated		Not rated	
10B:					
Colescreek	50	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12	Too acid	0.07

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10B:					
Delanco	30	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.12	Too steep for surface application	0.32
11A:					
Comus	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Flooding	0.60	Flooding	0.60
Maggodee	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Too acid	0.91
		Slow water movement	0.32	Flooding	0.60
Elsinboro	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	0.99
		Slow water movement	1.00		
12C:					
Cowee	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Cliffield	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Cobble content	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Evard	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
12D:					
Cowee	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Cliffield	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Cobble content	1.00
Evard	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
12E:					
Cowee	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Cliffield	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Cobble content	1.00
Evard	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
13D:					
Cullasaja	55	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.90	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Too acid	0.91
Tuckasegee	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too steep for sprinkler irrigation	1.00
		Cobble content	0.07	Too acid	0.91
13E:					
Cullasaja	55	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.90	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Too acid	0.91
Tuckasegee	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too steep for sprinkler irrigation	1.00
		Cobble content	0.07	Too acid	0.91
14C:					
Cullasaja	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.90	Too acid	0.91
		Slow water movement	0.32	Too steep for sprinkler irrigation	0.78
Tuckasegee	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too acid	0.91
		Cobble content	0.07	Too steep for sprinkler irrigation	0.78

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
14C:					
Dellwood	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
		Cobble content	0.84	Depth to saturated zone	0.99
		Flooding	0.60	Too acid	0.91
15E:					
Drapermill	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
16C:					
Edneytown	65	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
Sauratown	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
16D:					
Edneytown	70	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
Sauratown	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
16E:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
16F:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
17B:					
Elsinboro-----------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	0.99
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12		
Colescreek----------	20	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12	Too acid	0.07

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
18E:					
Goblintown----------	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Drapermill----------	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Penhook-------------	10	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
19C:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
19D:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
20E:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21F:					
Hickoryknob	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Rhodhiss	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
22C:					
Hickoryknob	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	1.00
Rhodhiss	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Stott Knob	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
22D:					
Hickoryknob	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
22D:					
Rhodhiss	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Stott Knob	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
22E:					
Hickoryknob	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Rhodhiss	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Stott Knob	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
23A:					
Iotla	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Too acid	0.67
		Slow water movement	0.32	Flooding	0.60
Maggodee	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Too acid	0.91
		Slow water movement	0.32	Flooding	0.60

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
23A:					
Colescreek	25	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slow water movement	1.00	Too acid	0.07
24B:					
Jackland	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Slope	0.12	Too steep for surface application	0.32
Mirerock	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15
Redbrush	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	0.60
		Slope	0.12	Too steep for surface application	0.32
24C:					
Jackland	35	Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
Mirerock	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
Redbrush	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
25C:					
Littlejoe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Penhook	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
Goblintown	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
25D:					
Littlejoe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Penhook	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
Goblintown	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
26C:					
Littlejoe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Strawfield	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	1.00
Penhook	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
26D:					
Littlejoe	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Strawfield	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Penhook	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
27B:					
Minnieville	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.71
		Slope	0.12	Too acid	0.67
				Too steep for surface application	0.32

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27C:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
27D:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
27E:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
28C:					
Minnieville---------	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
Orenda--------------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.42
Redbrush------------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
28D:					
Minnieville----------	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
Orenda--------------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.42
Redbrush------------	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
29C:					
Minnieville----------	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.71
Urban land----------	20	Not rated		Not rated	
30C:					
Myersville----------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.67
30D:					
Myersville----------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.67

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
31E:					
Myersville----------	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.67
Walnut--------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
32F:					
Myersville----------	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.67
Walnut--------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
33E:					
Peaks---------------	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.97	Depth to bedrock	1.00
Ashe----------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
33E:					
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
33F:					
Peaks	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.97	Depth to bedrock	1.00
Ashe	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
34F:					
Siloam	65	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
Bluemount	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement		Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35C:					
Thurmont------------	55	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Urban land----------	20	Not rated		Not rated	
Wintergreen---------	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
36B:					
Thurmont------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	0.99
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12		
Wintergreen---------	20	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Slope	0.12	Too steep for surface application	0.32
36C:					
Thurmont------------	65	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.99
Wintergreen---------	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
36D:					
Thurmont	65	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00		
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
Wintergreen	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	0.99
37E:					
Trimont	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Porters	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.94
37F:					
Trimont	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Porters	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.94

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
38C:					
Watauga	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
38D:					
Watauga	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00
38E:					
Watauga	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.32	Depth to bedrock	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
39B:					
Wintergreen---------	95	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Slope	0.12	Too steep for surface application	0.32
39C:					
Wintergreen---------	95	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
39D:					
Wintergreen---------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
40C:					
Woolwine------------	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Fairview------------	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Westfield-----------	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.91

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
40D:					
Woolwine	55	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Fairview	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Westfield	15	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.91
40E:					
Woolwine	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
Fairview	25	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Westfield	10	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Too acid	0.91
W:					
Water	100	Not rated		Not rated	

Table 9.—Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1C:				
Ashe	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	chestnut oak	65	47	
Edneyville	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	northern red oak	81	62	
Peaks	yellow-poplar	75	132	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	northern red oak	62	45	
2D:				
Ashe	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	chestnut oak	65	47	
Peaks	yellow-poplar	75	132	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	northern red oak	62	45	
Edneyville	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	northern red oak	81	62	
3D:				
Bluemount	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	70	93	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	
Spriggs	Virginia pine	65	100	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	62	45	
	loblolly pine	75	101	
4E:				
Bluemount	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	70	93	
Spriggs	Virginia pine	65	100	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	62	45	
	loblolly pine	75	101	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
5C:				
Bluemount	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	70	93	
Spriggs	Virginia pine	65	100	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	62	45	
	loblolly pine	75	101	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	
6C:				
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	
Chandler	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	88	162	
	Virginia pine	74	114	
	chestnut oak	67	49	
	white oak	67	49	
6D:				
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	
Chandler	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	88	162	
	Virginia pine	74	114	
	chestnut oak	67	49	
	white oak	67	49	
6E:				
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	
Chandler	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	88	162	
	Virginia pine	74	114	
	chestnut oak	67	49	
	white oak	67	49	
6F:				
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
6F:				
Chandler	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	88	162	
	Virginia pine	74	114	
	chestnut oak	67	49	
	white oak	67	49	
7B:				
Clifford	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	Virginia pine	71	110	
	northern red oak	81	62	
	white oak	78	60	
	loblolly pine	90	131	
7C:				
Clifford	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	Virginia pine	71	110	
	northern red oak	81	62	
	white oak	78	60	
	loblolly pine	90	131	
7D:				
Clifford	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	Virginia pine	71	110	
	northern red oak	81	62	
	white oak	78	60	
	loblolly pine	90	131	
8E:				
Clifford	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	Virginia pine	71	110	
	northern red oak	81	62	
	white oak	78	60	
	loblolly pine	90	131	
Hickoryknob	chestnut oak	55	38	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	Virginia pine	60	91	
	pitch pine	50	68	
9C:				
Clifford	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	Virginia pine	71	110	
	northern red oak	81	62	
	white oak	78	60	
	loblolly pine	90	131	
Urban land.				
10B:				
Colescreek	yellow-poplar	95	176	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	80	123	
	eastern white pine	90	166	
	loblolly pine	100	154	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
10B:				
Delanco	yellow-poplar	93	172	eastern white pine, shortleaf pine, yellow-poplar
	loblolly pine	100	154	
11A:				
Comus	yellow-poplar	95	176	eastern white pine, yellow-poplar, American sycamore
	northern red oak	85	67	
	loblolly pine	105	166	
Maggodee	yellow-poplar	95	176	eastern white pine, yellow-poplar, American sycamore
	northern red oak	85	67	
	loblolly pine	105	166	
Elsinboro	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	85	140	
	northern red oak	85	67	
	loblolly pine	100	154	
12C:				
Cowee	yellow-poplar	80	144	eastern white pine, shortleaf pine
	eastern white pine	78	139	
	Virginia pine	63	96	
	chestnut oak	60	43	
Cliffield	yellow-poplar	70	121	eastern white pine, shortleaf pine
	chestnut oak	50	34	
	northern red oak	60	43	
Evard	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	75	115	
	white oak	75	57	
12D:				
Cowee	yellow-poplar	80	144	eastern white pine, shortleaf pine
	eastern white pine	78	139	
	Virginia pine	63	96	
	chestnut oak	60	43	
Cliffield	yellow-poplar	70	121	eastern white pine, shortleaf pine
	chestnut oak	50	34	
	northern red oak	60	43	
Evard	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	75	115	
	white oak	75	57	
12E:				
Cowee	yellow-poplar	80	144	eastern white pine, shortleaf pine
	eastern white pine	78	139	
	Virginia pine	63	96	
	chestnut oak	60	43	
Cliffield	yellow-poplar	70	121	eastern white pine, shortleaf pine
	chestnut oak	50	34	
	northern red oak	60	43	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
12E:				
Evard	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	75	115	
	white oak	75	57	
13D:				
Cullasaja	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
Tuckasegee	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
	eastern white pine	98	182	
13E:				
Cullasaja	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
Tuckasegee	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
	eastern white pine	98	182	
14C:				
Cullasaja	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
Tuckasegee	yellow-poplar	109	202	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	92	74	
	eastern white pine	98	182	
Dellwood	yellow-poplar	100	186	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	91	168	
15E:				
Drapermill	chestnut oak	60	43	loblolly pine, Virginia pine
	Virginia pine	65	100	
	scarlet oak	69	51	
	yellow-poplar	70	121	
	white oak	61	44	
16C:				
Edneytown	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	70	109	
	white oak	60	43	
	northern red oak	60	43	
Sauratown	yellow-poplar	75	132	eastern white pine, shortleaf pine
	Virginia pine	63	96	
	chestnut oak	48	32	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
16D:				
Edneytown	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	70	109	
	chestnut oak	62	45	
	white oak	60	43	
	northern red oak	60	43	
	red maple	85	38	
Sauratown	yellow-poplar	75	132	eastern white pine, shortleaf pine
	Virginia pine	63	96	
	chestnut oak	48	32	
16E:				
Edneytown	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	70	109	
	chestnut oak	62	45	
	white oak	60	43	
	northern red oak	60	43	
	red maple	85	38	
Sauratown	yellow-poplar	75	132	eastern white pine, shortleaf pine
	Virginia pine	63	96	
	chestnut oak	48	32	
16F:				
Edneytown	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	Virginia pine	70	109	
	chestnut oak	62	45	
	white oak	60	43	
	northern red oak	60	43	
	red maple	85	38	
Sauratown	yellow-poplar	75	132	eastern white pine, shortleaf pine
	Virginia pine	63	96	
	chestnut oak	48	32	
17B:				
Elsinboro	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	85	140	
	northern red oak	85	67	
	loblolly pine	100	154	
Colescreek	yellow-poplar	95	176	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	80	123	
	eastern white pine	90	166	
	loblolly pine	100	154	
18E:				
Goblintown	chestnut oak	60	43	loblolly pine, Virginia pine
	Virginia pine	65	100	
	yellow-poplar	75	132	
	loblolly pine	80	110	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
18E:				
Drapermill	chestnut oak	60	43	loblolly pine, Virginia pine
	Virginia pine	65	100	
	scarlet oak	69	51	
	yellow-poplar	70	121	
	white oak	61	44	
Penhook	chestnut oak	65	47	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	70	52	
	yellow-poplar	80	144	
	white oak	69	51	
	loblolly pine	81	112	
19C:				
Hayesville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	84	153	
	Virginia pine	74	114	
19D:				
Hayesville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	84	153	
	Virginia pine	74	114	
20E:				
Hayesville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	84	153	
	Virginia pine	74	114	
21F:				
Hickoryknob	chestnut oak	55	38	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	Virginia pine	60	91	
	pitch pine	50	68	
Rhodhiss	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	90	166	
	Virginia pine	78	119	
	pitch pine	70	109	
	white oak	75	57	
	eastern white pine	86	157	
22C:				
Hickoryknob	chestnut oak	55	38	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	Virginia pine	60	91	
	pitch pine	50	68	
Rhodhiss	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	90	166	
	Virginia pine	78	119	
	pitch pine	70	109	
	white oak	75	57	
	eastern white pine	86	157	
Stott Knob	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	80	144	
	Virginia pine	63	96	
	eastern white pine	78	139	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
22D:				
Hickoryknob	chestnut oak	55	38	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	Virginia pine	60	91	
	pitch pine	50	68	
Rhodhiss	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	90	166	
	Virginia pine	78	119	
	pitch pine	70	109	
	white oak	75	57	
	eastern white pine	86	157	
Stott Knob	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	80	144	
	Virginia pine	63	96	
	eastern white pine	78	139	
22E:				
Hickoryknob	chestnut oak	55	38	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	Virginia pine	60	91	
	pitch pine	50	68	
Rhodhiss	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	90	166	
	Virginia pine	78	119	
	pitch pine	70	109	
	white oak	75	57	
	eastern white pine	86	157	
Stott Knob	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	80	144	
	Virginia pine	63	96	
	eastern white pine	78	139	
23A:				
Iotla	yellow-poplar	99	184	eastern white pine, yellow-poplar, American sycamore
	loblolly pine	105	166	
Maggodee	yellow-poplar	95	176	eastern white pine, yellow-poplar, American sycamore
	northern red oak	85	67	
	loblolly pine	105	166	
Colescreek	yellow-poplar	95	176	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	80	123	
	eastern white pine	90	166	
	loblolly pine	100	154	
24B:				
Jackland	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	white oak	47	32	
	northern red oak	60	43	
	loblolly pine	70	93	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
24B:				
Mirerock	Virginia pine	65	100	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	white oak	65	47	
	northern red oak	60	43	
	loblolly pine	80	110	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	
24C:				
Jackland	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	white oak	47	32	
	northern red oak	60	43	
	loblolly pine	70	93	
Mirerock	Virginia pine	65	100	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	white oak	65	47	
	northern red oak	60	43	
	loblolly pine	80	110	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	
25C:				
Littlejoe	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	Virginia pine	68	105	
	yellow-poplar	75	132	
	northern red oak	65	47	
	loblolly pine	78	107	
Penhook	chestnut oak	65	47	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	70	52	
	yellow-poplar	80	144	
	white oak	69	51	
	loblolly pine	81	112	
Goblintown	chestnut oak	60	43	loblolly pine, Virginia pine
	Virginia pine	65	100	
	yellow-poplar	75	132	
	loblolly pine	80	110	
25D:				
Littlejoe	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	Virginia pine	68	105	
	yellow-poplar	75	132	
	northern red oak	65	47	
	loblolly pine	78	107	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
25D:				
Penhook	chestnut oak	65	47	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	70	52	
	yellow-poplar	80	144	
	white oak	69	51	
	loblolly pine	81	112	
Goblintown	chestnut oak	60	43	loblolly pine, Virginia pine
	Virginia pine	65	100	
	yellow-poplar	75	132	
	loblolly pine	80	110	
26C:				
Littlejoe	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	Virginia pine	68	105	
	yellow-poplar	75	132	
	northern red oak	65	47	
	loblolly pine	78	107	
Strawfield	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	65	47	
	yellow-poplar	70	121	
	white oak	63	46	
	loblolly pine	80	110	
Penhook	chestnut oak	65	47	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	70	52	
	yellow-poplar	80	144	
	white oak	69	51	
	loblolly pine	81	112	
26D:				
Littlejoe	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	Virginia pine	68	105	
	yellow-poplar	75	132	
	northern red oak	65	47	
	loblolly pine	78	107	
Strawfield	chestnut oak	60	43	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	65	47	
	yellow-poplar	70	121	
	white oak	63	46	
	loblolly pine	80	110	
Penhook	chestnut oak	65	47	loblolly pine, eastern white pine, Virginia pine
	scarlet oak	70	52	
	yellow-poplar	80	144	
	white oak	69	51	
	loblolly pine	81	112	
27B:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
27C:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
27D:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	red maple	90	42	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
27E:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
28C:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
Orenda	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	loblolly pine	83	116	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	
28D:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
Orenda	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	loblolly pine	83	116	
Redbrush	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	75	101	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
29C:				
Minnieville	Virginia pine	70	109	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	75	132	
	northern red oak	70	52	
	chestnut oak	70	52	
	loblolly pine	85	120	
Urban land.				
30C:				
Myersville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	82	64	
30D:				
Myersville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	82	64	
31E:				
Myersville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	82	64	
Walnut	yellow-poplar	70	121	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	75	132	
32F:				
Myersville	yellow-poplar	85	155	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	82	64	
Walnut	yellow-poplar	70	121	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	75	132	
33E:				
Peaks	yellow-poplar	75	132	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	northern red oak	62	45	
Ashe	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	chestnut oak	65	47	
Edneyville	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	northern red oak	81	62	
33F:				
Peaks	yellow-poplar	75	132	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	northern red oak	62	45	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
33F:				
Ashe	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	81	146	
	Virginia pine	62	95	
	chestnut oak	65	47	
Edneyville	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	85	155	
	northern red oak	81	62	
34F:				
Siloam	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
Bluemount	Virginia pine	60	91	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	121	
	northern red oak	60	43	
	loblolly pine	70	93	
35C:				
Thurmont	yellow-poplar	92	170	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	80	123	
	northern red oak	80	62	
	white oak	75	57	
	eastern white pine	89	164	
	loblolly pine	95	142	
Urban land.				
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
36B:				
Thurmont	yellow-poplar	92	170	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	80	123	
	northern red oak	80	62	
	white oak	75	57	
	eastern white pine	89	164	
	loblolly pine	95	142	
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
36C:				
Thurmont	yellow-poplar	92	170	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	80	123	
	northern red oak	80	62	
	white oak	75	57	
	eastern white pine	89	164	
	loblolly pine	95	142	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
36C:				
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
36D:				
Thurmont	yellow-poplar	92	170	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	80	123	
	northern red oak	80	62	
	white oak	75	57	
	eastern white pine	89	164	
	loblolly pine	95	142	
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
37E:				
Trimont	yellow-poplar	98	182	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	85	67	
	eastern white pine	90	166	
Porters	yellow-poplar	96	178	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	85	67	
	eastern white pine	89	164	
37F:				
Trimont	yellow-poplar	98	182	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	85	67	
	eastern white pine	90	166	
Porters	yellow-poplar	96	178	eastern white pine, shortleaf pine, yellow-poplar
	northern red oak	85	67	
	eastern white pine	89	164	
38C:				
Watauga	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	87	159	
	northern red oak	84	65	
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	
38D:				
Watauga	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	87	159	
	northern red oak	84	65	
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
38E:				
Watauga	yellow-poplar	90	166	eastern white pine, shortleaf pine, yellow-poplar
	eastern white pine	87	159	
	northern red oak	84	65	
Brownwood	yellow-poplar	80	144	eastern white pine, shortleaf pine, Virginia pine
	eastern white pine	80	144	
	Virginia pine	60	91	
	chestnut oak	65	47	
39B:				
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
39C:				
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
39D:				
Wintergreen	yellow-poplar	90	166	loblolly pine, eastern white pine, yellow-poplar
	Virginia pine	75	115	
	eastern white pine	88	162	
	northern red oak	80	62	
	loblolly pine	90	131	
40C:				
Woolwine	chestnut oak	55	38	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	70	121	
	northern red oak	60	43	
	Virginia pine	65	100	
	white oak	60	43	
	loblolly pine	75	101	
Fairview	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	85	155	
	northern red oak	75	57	
	Virginia pine	80	123	
	white oak	75	57	
	loblolly pine	88	127	
Westfield	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	northern red oak	70	52	
	Virginia pine	68	105	
	white oak	68	50	
	loblolly pine	85	120	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
40D:				
Woolwine	chestnut oak	55	38	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	70	121	
	northern red oak	60	43	
	Virginia pine	65	100	
	white oak	60	43	
	loblolly pine	75	101	
Fairview	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	85	155	
	northern red oak	75	57	
	Virginia pine	80	123	
	white oak	75	57	
	loblolly pine	88	127	
Westfield	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	northern red oak	70	52	
	Virginia pine	68	105	
	white oak	68	50	
	loblolly pine	85	120	
40E:				
Woolwine	chestnut oak	55	38	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	70	121	
	northern red oak	60	43	
	Virginia pine	65	100	
	white oak	60	43	
	loblolly pine	75	101	
Fairview	chestnut oak	70	52	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	85	155	
	northern red oak	75	57	
	Virginia pine	80	123	
	white oak	75	57	
	loblolly pine	88	127	
Westfield	chestnut oak	65	47	loblolly pine, eastern white pine, yellow-poplar
	yellow-poplar	83	151	
	northern red oak	70	52	
	Virginia pine	68	105	
	white oak	68	50	
	loblolly pine	85	120	
W. Water				

Table 10.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe	40	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
Edneyville	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Peaks	20	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
2D:							
Ashe	40	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.50
		Slope	0.50				
Peaks	35	Moderate		Poorly suited		Moderate	
		Restrictive layer	0.50	Slope	1.00	Low strength	0.50
		Slope	0.50				
Edneyville	20	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
3D:							
Bluemount	35	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.50
		Slope	0.50				
Redbrush	30	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
Spriggs	15	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
4E:							
Bluemount	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Spriggs	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
5C:							
Bluemount	55	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
		Low strength	0.50				
Spriggs	20	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
5C:							
Redbrush------------	15	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
6C:							
Brownwood-----------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Chandler------------	40	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	1.00
				Low strength	0.50		
6D:							
Brownwood-----------	60	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
Chandler------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
6E:							
Brownwood-----------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Chandler------------	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
6F:							
Brownwood-----------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Chandler------------	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
7B:							
Clifford------------	95	Slight		Well suited		Moderate	
						Low strength	0.50
7C:							
Clifford------------	95	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
7D:							
Clifford------------	90	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
8E:							
Clifford------------	75	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Hickoryknob---------	15	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
9C:							
Clifford	75	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Slight		Well suited		Moderate	
						Low strength	0.50
Delanco	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	1.00
		Sandiness	0.50	Low strength	0.50		
11A:							
Comus	45	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Flooding	0.50	Low strength	0.50
Maggodee	20	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Flooding	0.50	Low strength	0.50
Elsinboro	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
12C:							
Cowee	40	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Cliffield	25	Moderate		Moderately suited		Slight	
		Restrictive layer	0.50	Slope	0.50	Strength	0.10
Evard	25	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
12D:							
Cowee	40	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
Cliffield	25	Severe		Poorly suited		Slight	
		Restrictive layer	1.00	Slope	1.00	Strength	0.10
		Slope	0.50				
Evard	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
12E:							
Cowee	40	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Cliffield	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Evard	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13D:							
Cullasaja-----------	55	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Tuckasegee----------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
13E:							
Cullasaja-----------	55	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Tuckasegee----------	30	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
14C:							
Cullasaja-----------	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Tuckasegee----------	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Dellwood------------	20	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Flooding	0.50	Low strength	0.50
15E:							
Drapermill----------	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
16C:							
Edneytown-----------	65	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Sauratown-----------	25	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
16D:							
Edneytown-----------	70	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Sauratown-----------	25	Moderate		Poorly suited		Moderate	
		Restrictive layer	0.50	Slope	1.00	Low strength	0.50
		Slope	0.50				
16E:							
Edneytown-----------	65	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Sauratown-----------	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
16F:							
Edneytown-----------	65	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Sauratown-----------	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17B:							
Elsinboro	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Colescreek	20	Slight		Well suited		Moderate	
						Low strength	0.50
18E:							
Goblintown	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Drapermill	20	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Penhook	10	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
19C:							
Hayesville	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
19D:							
Hayesville	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
20E:							
Hayesville	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
21F:							
Hickoryknob	75	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Rhodhiss	15	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
22C:							
Hickoryknob	35	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Rhodhiss	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Stott Knob	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
22D:							
Hickoryknob	35	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
Rhodhiss	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Stott Knob	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
22E:							
Hickoryknob	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Rhodhiss	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Stott Knob	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
23A:							
Iotla	30	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
		Low strength	0.50	Sandiness	0.50		
		Wetness	0.50				
Maggodee	25	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Flooding	0.50	Low strength	0.50
Colescreek	25	Slight		Well suited		Moderate	
						Low strength	0.50
24B:							
Jackland	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Mirerock	30	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
Redbrush	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50				
24C:							
Jackland	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
				Wetness	0.50		
Mirerock	30	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
24C:							
Redbrush------------	20	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
25C:							
Littlejoe-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Penhook-------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Goblintown----------	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
25D:							
Littlejoe-----------	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
Penhook-------------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Goblintown----------	15	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
26C:							
Littlejoe-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Strawfield----------	30	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Penhook-------------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
26D:							
Littlejoe-----------	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
Strawfield----------	30	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
Penhook-------------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27B:							
Minnieville---------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
27C:							
Minnieville---------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
27D:							
Minnieville---------	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
27E:							
Minnieville---------	90	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
28C:							
Minnieville---------	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Orenda--------------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Redbrush------------	25	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
28D:							
Minnieville---------	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Orenda--------------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Redbrush------------	25	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
29C:							
Minnieville---------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
30D:							
Myersville----------	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
31E:							
Myersville----------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Walnut--------------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
32F:							
Myersville----------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Walnut--------------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
33E:							
Peaks---------------	40	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Ashe----------------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Edneyville----------	20	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
33F:							
Peaks---------------	40	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Ashe----------------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Edneyville----------	20	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
34F:							
Siloam--------------	65	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
Bluemount-----------	20	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
35C:							
Thurmont------------	55	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
Wintergreen---------	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36B:							
Thurmont	65	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
Wintergreen	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
36C:							
Thurmont	65	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Wintergreen	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
36D:							
Thurmont	65	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Wintergreen	20	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
37E:							
Trimont	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Porters	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
37F:							
Trimont	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Porters	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
38C:							
Watauga	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Brownwood	35	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
38D:							
Watauga	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Brownwood	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38E:							
Watauga-------------	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Brownwood-----------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
39B:							
Wintergreen---------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
39C:							
Wintergreen---------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
39D:							
Wintergreen---------	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
40C:							
Woolwine------------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Fairview------------	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Westfield-----------	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
40D:							
Woolwine------------	55	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
Fairview------------	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Westfield-----------	15	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
40E:							
Woolwine------------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Fairview------------	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Westfield-----------	10	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
1C:							
Ashe----------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Edneyville----------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Peaks---------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
2D:							
Ashe----------------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Peaks---------------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Edneyville----------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
3D:							
Bluemount-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Redbrush------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Spriggs-------------	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
4E:							
Bluemount-----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Spriggs-------------	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
5C:							
Bluemount-----------	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Spriggs-------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Redbrush------------	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
6C:							
Brownwood-----------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
6C:							
Chandler------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
6D:							
Brownwood-----------	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Chandler------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
6E:							
Brownwood-----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Chandler------------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
6F:							
Brownwood-----------	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Chandler------------	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
7B:							
Clifford------------	95	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
7C:							
Clifford------------	95	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
7D:							
Clifford------------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
8E:							
Clifford------------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Hickoryknob---------	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
9C:							
Clifford------------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
10B:							
Colescreek----------	50	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
10B:							
Delanco	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Low strength	0.50
11A:							
Comus	45	Slight		Slight		Moderately suited	
						Flooding	0.50
Maggodee	20	Slight		Slight		Moderately suited	
						Flooding	0.50
Elsinboro	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
12C:							
Cowee	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Cliffield	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Evard	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
12D:							
Cowee	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Cliffield	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Evard	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
12E:							
Cowee	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Cliffield	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Evard	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
13D:							
Cullasaja	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Tuckasegee	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
13E:							
Cullasaja	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Tuckasegee	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
14C:							
Cullasaja	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Tuckasegee	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Dellwood	20	Slight		Slight		Moderately suited	
						Flooding	0.50
15E:							
Drapermill	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
16C:							
Edneytown	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Sauratown	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
16D:							
Edneytown	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Sauratown	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
16E:							
Edneytown	65	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Sauratown	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
16F:							
Edneytown	65	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Sauratown	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
17B:							
Elsinboro	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Colescreek	20	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
18E:							
Goblintown	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Drapermill	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Penhook	10	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
19C:							
Hayesville----------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
19D:							
Hayesville----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
20E:							
Hayesville----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
21F:							
Hickoryknob---------	75	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Rhodhiss------------	15	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
22C:							
Hickoryknob---------	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Rhodhiss------------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
Stott Knob----------	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
22D:							
Hickoryknob---------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Rhodhiss------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Stott Knob----------	25	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Low strength	0.50
22E:							
Hickoryknob---------	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Rhodhiss------------	25	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
22E:							
Stott Knob----------	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
23A:							
Iotla---------------	30	Slight		Slight		Poorly suited	
						Flooding	1.00
						Sandiness	0.50
Maggodee------------	25	Slight		Slight		Moderately suited	
						Flooding	0.50
Colescreek----------	25	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
24B:							
Jackland------------	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Mirerock------------	30	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Redbrush------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
24C:							
Jackland------------	35	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
Mirerock------------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Redbrush------------	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
25C:							
Littlejoe-----------	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Penhook-------------	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Goblintown----------	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
25D:							
Littlejoe-----------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
25D:							
Penhook-------------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Goblintown----------	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
26C:							
Littlejoe-----------	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Strawfield----------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Penhook-------------	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
26D:							
Littlejoe-----------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Strawfield----------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Penhook-------------	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
27B:							
Minnieville---------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
27C:							
Minnieville---------	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
27D:							
Minnieville---------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
27E:							
Minnieville---------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
28C:							
Minnieville---------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
28C:							
Orenda	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Redbrush	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
28D:							
Minnieville	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Orenda	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Redbrush	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
29C:							
Minnieville	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
30C:							
Myersville	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
30D:							
Myersville	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
31E:							
Myersville	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Walnut	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
32F:							
Myersville	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Walnut	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
33E:							
Peaks	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
33E:							
Ashe	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Edneyville	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
33F:							
Peaks	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Ashe	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Edneyville	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
34F:							
Siloam	65	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Bluemount	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
35C:							
Thurmont	55	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
36B:							
Thurmont	65	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Wintergreen	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
36C:							
Thurmont	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Wintergreen	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
36D:							
Thurmont	65	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wintergreen	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
37E:							
Trimont	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Porters	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
37F:							
Trimont	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Porters	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
38C:							
Watauga	60	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Brownwood	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
38D:							
Watauga	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Brownwood	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
38E:							
Watauga	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Brownwood	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
39B:							
Wintergreen	95	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
39C:							
Wintergreen	95	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
39D:							
Wintergreen	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
40C:							
Woolwine	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
40C:							
Fairview	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Westfield	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
40D:							
Woolwine	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Fairview	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Westfield	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
40E:							
Woolwine	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Fairview	25	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Westfield	10	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1C:							
Ashe	40	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Edneyville	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Peaks	20	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
2D:							
Ashe	40	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Peaks	35	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Slope	0.50
				Slope	0.75		
Edneyville	20	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
3D:							
Bluemount	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Redbrush	30	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75	Slope	0.50
				Rock fragments	0.50		
Spriggs	15	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
4E:							
Bluemount	50	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Spriggs	25	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
5C:							
Bluemount	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
5C:							
Spriggs	20	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Redbrush	15	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
6C:							
Brownwood	50	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Chandler	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		
6D:							
Brownwood	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Chandler	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50	Slope	0.50
6E:							
Brownwood	50	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Chandler	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50
6F:							
Brownwood	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Chandler	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
7B:							
Clifford	95	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		
7C:							
Clifford	95	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
7D:							
Clifford	90	Moderately suited Stickiness; high plasticity index	 0.50	Poorly suited Slope Stickiness; high plasticity index	 0.75 0.50	Moderately suited Slope	 0.50
8E:							
Clifford	75	Moderately suited Stickiness; high plasticity index Slope	 0.50 0.50	Unsuited Slope Stickiness; high plasticity index	 1.00 0.50	Moderately suited Slope	 0.50
Hickoryknob	15	Moderately suited Slope	 0.50	Unsuited Slope Rock fragments	 1.00 0.50	Moderately suited Slope Low strength	 0.50 0.50
9C:							
Clifford	75	Moderately suited Stickiness; high plasticity index	 0.50	Moderately suited Stickiness; high plasticity index Slope	 0.50 0.50	Well suited	
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Well suited		Moderately suited Slope	 0.50	Well suited	
Delanco	30	Well suited		Moderately suited Slope	 0.50	Moderately suited Low strength Sandiness	 0.50 0.50
11A:							
Comus	45	Well suited		Well suited		Well suited	
Maggodee	20	Well suited		Well suited		Well suited	
Elsinboro	20	Well suited		Well suited		Moderately suited Low strength	 0.50
12C:							
Cowee	40	Well suited		Moderately suited Slope Rock fragments	 0.50 0.50	Well suited	
Cliffield	25	Moderately suited Rock fragments	 0.50	Unsuited Rock fragments Slope	 1.00 0.50	Well suited	
Evard	25	Well suited		Moderately suited Slope Rock fragments	 0.50 0.50	Well suited	
12D:							
Cowee	40	Well suited		Poorly suited Slope Rock fragments	 0.75 0.50	Moderately suited Slope	 0.50
Cliffield	25	Moderately suited Rock fragments	 0.50	Unsuited Rock fragments Slope	 1.00 0.75	Moderately suited Slope	 0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
12D:							
Evard	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
12E:							
Cowee	40	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Cliffield	25	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Slope	1.00	Slope	0.50
		Slope	0.50	Rock fragments	1.00		
Evard	25	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
13D:							
Cullasaja	55	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Tuckasegee	30	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Rock fragments	0.50		
13E:							
Cullasaja	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Tuckasegee	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
14C:							
Cullasaja	40	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Tuckasegee	25	Moderately suited		Moderately suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.50		
				Slope	0.50		
Dellwood	20	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
15E:							
Drapermill	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
16C:							
Edneytown	65	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Sauratown	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
16D:							
Edneytown-----------	70	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Sauratown-----------	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
16E:							
Edneytown-----------	65	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Sauratown-----------	25	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
16F:							
Edneytown-----------	65	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Sauratown-----------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
17B:							
Elsinboro-----------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Colescreek----------	20	Well suited		Moderately suited		Well suited	
				Slope	0.50		
18E:							
Goblintown----------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Drapermill----------	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Penhook-------------	10	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
19C:							
Hayesville----------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
19D:							
Hayesville----------	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
20E:							
Hayesville----------	85	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
21F:							
Hickoryknob	75	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Rhodhiss	15	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
22C:							
Hickoryknob	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		
Rhodhiss	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Stott Knob	25	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
22D:							
Hickoryknob	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50	Slope	0.50
Rhodhiss	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Stott Knob	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
22E:							
Hickoryknob	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Rhodhiss	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Stott Knob	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
23A:							
Iotla	30	Well suited		Well suited		Moderately suited	
						Sandiness	0.50
						Wetness	0.50
Maggodee	25	Well suited		Well suited		Well suited	
Colescreek	25	Well suited		Well suited		Well suited	
24B:							
Jackland	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
24B:							
Mirerock	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Redbrush	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
24C:							
Jackland	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Mirerock	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Redbrush	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
25C:							
Littlejoe	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Penhook	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Goblintown	15	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
25D:							
Littlejoe	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Penhook	35	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Goblintown	15	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
26C:							
Littlejoe	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
26C:							
Strawfield	30	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Penhook	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
26D:							
Littlejoe	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Strawfield	30	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Penhook	25	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
27B:							
Minnieville	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
27C:							
Minnieville	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
27D:							
Minnieville	90	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
27E:							
Minnieville	90	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
28C:							
Minnieville	45	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
28C:							
Orenda	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Redbrush	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
28D:							
Minnieville	45	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Orenda	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75	Slope	0.50
Redbrush	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75	Slope	0.50
				Rock fragments	0.50		
29C:							
Minnieville	75	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Urban land	20	Not rated		Not rated		Not rated	
30C:							
Myersville	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		
30D:							
Myersville	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50	Slope	0.50
31E:							
Myersville	45	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50
Walnut	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
32F:							
Myersville	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
32F:							
Walnut	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
33E:							
Peaks	40	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Slope	1.00	Slope	0.50
		Slope	0.50	Rock fragments	0.75		
Ashe	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Edneyville	20	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
33F:							
Peaks	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Ashe	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Edneyville	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
34F:							
Siloam	65	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Bluemount	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
35C:							
Thurmont	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
36B:							
Thurmont	65	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Wintergreen	20	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
36C:							
Thurmont	65	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Wintergreen	20	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
36D:							
Thurmont	65	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Wintergreen	20	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
37E:							
Trimont	45	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50
Porters	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50
37F:							
Trimont	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Porters	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
38C:							
Watauga	60	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Brownwood	35	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
38D:							
Watauga	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Brownwood	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
38E:							
Watauga	60	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
						Low strength	0.50
Brownwood	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
39B:							
Wintergreen---------	95	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
39C:							
Wintergreen---------	95	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
39D:							
Wintergreen---------	90	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
40C:							
Woolwine------------	50	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Fairview------------	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Westfield-----------	15	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
40D:							
Woolwine------------	55	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Fairview------------	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Westfield-----------	15	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
40E:							
Woolwine------------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Fairview------------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Westfield-----------	10	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1C:					
Ashe	40	Well suited		Poorly suited	
				Restrictive layer	0.50
Edneyville	30	Well suited		Well suited	
Peaks	20	Poorly suited		Poorly suited	
		Rock fragments	0.50	Restrictive layer	0.50
2D:					
Ashe	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
Peaks	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50	Restrictive layer	0.50
Edneyville	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
3D:					
Bluemount	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Rock fragments	0.50
				Restrictive layer	0.50
Redbrush	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Spriggs	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
4E:					
Bluemount	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Rock fragments	0.50
				Restrictive layer	0.50
Spriggs	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
5C:					
Bluemount	55	Well suited		Poorly suited	
				Rock fragments	0.50
				Restrictive layer	0.50
Spriggs	20	Well suited		Well suited	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
5C:					
Redbrush	15	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
6C:					
Brownwood	50	Well suited		Well suited	
Chandler	40	Well suited		Well suited	
6D:					
Brownwood	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Chandler	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
6E:					
Brownwood	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Chandler	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
6F:					
Brownwood	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Chandler	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
7B:					
Clifford	95	Well suited		Well suited	
7C:					
Clifford	95	Well suited		Well suited	
7D:					
Clifford	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
8E:					
Clifford	75	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Hickoryknob	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
9C:					
Clifford	75	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
10B:					
Colescreek	50	Well suited		Well suited	
Delanco	30	Well suited		Well suited	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
11A:					
Comus---------------	45	Well suited		Well suited	
Maggodee------------	20	Well suited		Well suited	
Elsinboro-----------	20	Well suited		Well suited	
12C:					
Cowee---------------	40	Well suited		Well suited	
Cliffield-----------	25	Poorly suited		Poorly suited	
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
Evard---------------	25	Well suited		Well suited	
12D:					
Cowee---------------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Cliffield-----------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
Evard---------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
12E:					
Cowee---------------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Cliffield-----------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
Evard---------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
13D:					
Cullasaja-----------	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Tuckasegee----------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
13E:					
Cullasaja-----------	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Tuckasegee----------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
14C:					
Cullasaja	40	Well suited		Well suited	
Tuckasegee	25	Poorly suited		Well suited	
		Rock fragments	0.50		
Dellwood	20	Poorly suited		Well suited	
		Rock fragments	0.50		
15E:					
Drapermill	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
16C:					
Edneytown	65	Well suited		Well suited	
Sauratown	25	Well suited		Poorly suited	
				Restrictive layer	0.50
16D:					
Edneytown	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Sauratown	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
16E:					
Edneytown	65	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Sauratown	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
16F:					
Edneytown	65	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Sauratown	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
17B:					
Elsinboro	70	Well suited		Well suited	
Colescreek	20	Well suited		Well suited	
18E:					
Goblintown	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Drapermill	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
Penhook	10	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19C:					
Hayesville----------	85	Well suited		Well suited	
19D:					
Hayesville----------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
20E:					
Hayesville----------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
21F:					
Hickoryknob---------	75	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Rhodhiss------------	15	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
22C:					
Hickoryknob---------	35	Well suited		Well suited	
Rhodhiss------------	30	Well suited		Well suited	
Stott Knob----------	25	Well suited		Well suited	
22D:					
Hickoryknob---------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Rhodhiss------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Stott Knob----------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
22E:					
Hickoryknob---------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Rhodhiss------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Stott Knob----------	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
23A:					
Iotla---------------	30	Well suited		Unsuited	
				Wetness	1.00
Maggodee------------	25	Well suited		Well suited	
Colescreek----------	25	Well suited		Well suited	
24B:					
Jackland------------	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Mirerock------------	30	Well suited		Well suited	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24B:					
Redbrush	20	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
24C:					
Jackland	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Mirerock	30	Well suited		Well suited	
Redbrush	20	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
25C:					
Littlejoe	40	Well suited		Well suited	
Penhook	35	Well suited		Well suited	
Goblintown	15	Well suited		Well suited	
25D:					
Littlejoe	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Penhook	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Goblintown	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
26C:					
Littlejoe	40	Well suited		Well suited	
Strawfield	30	Well suited		Poorly suited	
				Restrictive layer	0.50
Penhook	25	Well suited		Well suited	
26D:					
Littlejoe	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Strawfield	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
Penhook	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
27B:					
Minnieville	90	Well suited		Well suited	
27C:					
Minnieville	90	Well suited		Well suited	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
27D:					
Minnieville	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
27E:					
Minnieville	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
28C:					
Minnieville	45	Well suited		Well suited	
Orenda	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Redbrush	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
28D:					
Minnieville	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Orenda	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Redbrush	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
29C:					
Minnieville	75	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
30C:					
Myersville	90	Well suited		Well suited	
30D:					
Myersville	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
31E:					
Myersville	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Walnut	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
32F:					
Myersville	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Walnut	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
33E:					
Peaks	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50	Restrictive layer	0.50
Ashe	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
Edneyville	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
33F:					
Peaks	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
Ashe	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
Edneyville	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
34F:					
Siloam	65	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
Bluemount	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Rock fragments	0.50
				Restrictive layer	0.50
35C:					
Thurmont	55	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
Wintergreen	15	Well suited		Well suited	
36B:					
Thurmont	65	Well suited		Well suited	
Wintergreen	20	Well suited		Well suited	
36C:					
Thurmont	65	Well suited		Well suited	
Wintergreen	20	Well suited		Well suited	
36D:					
Thurmont	65	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wintergreen	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
37E:					
Trimont-------------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Porters-------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
37F:					
Trimont-------------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Porters-------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
38C:					
Watauga-------------	60	Well suited		Well suited	
Brownwood-----------	35	Well suited		Well suited	
38D:					
Watauga-------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Brownwood-----------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
38E:					
Watauga-------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Brownwood-----------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
39B:					
Wintergreen---------	95	Well suited		Well suited	
39C:					
Wintergreen---------	95	Well suited		Well suited	
39D:					
Wintergreen---------	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
40C:					
Woolwine------------	50	Well suited		Well suited	
Fairview------------	30	Well suited		Well suited	
Westfield-----------	15	Well suited		Well suited	
40D:					
Woolwine------------	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Fairview------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Westfield-----------	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40E:					
Woolwine------------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Fairview------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Westfield-----------	10	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
W:					
Water---------------	100	Not rated		Not rated	

Table 10.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
1C:					
Ashe	40	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Edneyville	30	Low		Low	
		Texture/rock fragments	0.10		
Peaks	20	Low		Low	
		Texture/rock fragments	0.10		
2D:					
Ashe	40	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Peaks	35	Low		Low	
		Texture/rock fragments	0.10		
Edneyville	20	Low		Low	
		Texture/rock fragments	0.10		
3D:					
Bluemount	35	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Redbrush	30	Moderate		Low	
		Texture/rock fragments	0.50		
Spriggs	15	Moderate		Low	
		Texture/rock fragments	0.50		
4E:					
Bluemount	50	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
Spriggs	25	Moderate		Low	
		Texture/slope/ rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
5C:					
Bluemount-----------	55	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Spriggs-------------	20	Moderate		Low	
		Texture/rock fragments	0.50		
Redbrush------------	15	Moderate		Low	
		Texture/rock fragments	0.50		
6C:					
Brownwood-----------	50	Low		Low	
		Texture/rock fragments	0.10		
Chandler------------	40	Low		Low	
		Texture/surface depth/rock fragments	0.10		
6D:					
Brownwood-----------	60	Low		Low	
		Texture/rock fragments	0.10		
Chandler------------	30	Low		Low	
		Texture/surface depth/rock fragments	0.10		
6E:					
Brownwood-----------	50	Low		Low	
		Texture/slope/ rock fragments	0.10		
Chandler------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
6F:					
Brownwood-----------	50	Low		Low	
		Texture/slope/ rock fragments	0.10		
Chandler------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
7B:					
Clifford------------	95	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
7C:					
Clifford-----------	95	Low		Low	
		Texture/rock fragments	0.10		
7D:					
Clifford-----------	90	Low		Low	
		Texture/rock fragments	0.10		
8E:					
Clifford-----------	75	Low		Low	
		Texture/slope/ rock fragments	0.10		
Hickoryknob---------	15	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
9C:					
Clifford-----------	75	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	20	Not rated		Not rated	
10B:					
Colescreek----------	50	Low		Low	
		Texture/rock fragments	0.10		
Delanco-------------	30	Low		Low	
		Texture/rock fragments	0.10		
11A:					
Comus---------------	45	Low		Low	
		Texture/rock fragments	0.10		
Maggodee------------	20	Low		Low	
		Texture/rock fragments	0.10		
Elsinboro-----------	20	Low		Low	
		Texture/rock fragments	0.10		
12C:					
Cowee---------------	40	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Cliffield-----------	25	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
12C:					
Evard---------------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
12D:					
Cowee---------------	40	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Cliffield-----------	25	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Evard---------------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
12E:					
Cowee---------------	40	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Cliffield-----------	25	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Evard---------------	25	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
13D:					
Cullasaja-----------	55	Low		Low	
		Texture/rock fragments	0.10		
Tuckasegee----------	30	Low		Low	
		Texture/rock fragments	0.10		
13E:					
Cullasaja-----------	55	Low		Low	
		Texture/slope/ rock fragments	0.10		
Tuckasegee----------	30	Low		Low	
		Texture/rock fragments	0.10		
14C:					
Cullasaja-----------	40	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
14C:					
Tuckasegee----------	25	Low		Low	
		Texture/rock fragments	0.10		
Dellwood-----------	20	Low		Low	
		Texture/rock fragments	0.10		
15E:					
Drapermill----------	85	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
16C:					
Edneytown-----------	65	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Sauratown-----------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
16D:					
Edneytown-----------	70	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Sauratown-----------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
16E:					
Edneytown-----------	65	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Sauratown-----------	25	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
16F:					
Edneytown-----------	65	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Sauratown-----------	25	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
17B:					
Elsinboro-----------	70	Low		Low	
		Texture/rock fragments	0.10		
Colescreek----------	20	Low		Low	
		Texture/rock fragments	0.10		
18E:					
Goblintown----------	45	Low		Low	
		Texture/slope/ rock fragments	0.10		
Drapermill----------	20	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Penhook-------------	10	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
19C:					
Hayesville----------	85	Low		Low	
		Texture/rock fragments	0.10		
19D:					
Hayesville----------	85	Low		Low	
		Texture/rock fragments	0.10		
20E:					
Hayesville----------	85	Low		Low	
		Texture/rock fragments	0.10		
21F:					
Hickoryknob---------	75	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Rhodhiss------------	15	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
22C:					
Hickoryknob---------	35	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Rhodhiss------------	30	Moderate		Low	
		Texture/rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
22C:					
Stott Knob----------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
22D:					
Hickoryknob---------	35	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Rhodhiss------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
Stott Knob----------	25	Low		Low	
		Texture/surface depth/rock fragments	0.10		
22E:					
Hickoryknob---------	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Rhodhiss------------	25	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
Stott Knob----------	20	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
23A:					
Iotla---------------	30	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Maggodee------------	25	Low		Low	
		Texture/rock fragments	0.10		
Colescreek----------	25	Low		Low	
		Texture/rock fragments	0.10		
24B:					
Jackland------------	35	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Mirerock------------	30	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
24B:					
Redbrush------------	20	Moderate		Low	
		Texture/rock fragments	0.50		
24C:					
Jackland------------	35	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Mirerock------------	30	Low		Low	
		Texture/rock fragments	0.10		
Redbrush------------	20	Moderate		Low	
		Texture/rock fragments	0.50		
25C:					
Littlejoe-----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Penhook-------------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Goblintown----------	15	Low		Low	
		Texture/rock fragments	0.10		
25D:					
Littlejoe-----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Penhook-------------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Goblintown----------	15	Low		Low	
		Texture/rock fragments	0.10		
26C:					
Littlejoe-----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Strawfield----------	30	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Penhook-------------	25	Moderate		Low	
		Texture/rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
26D:					
Littlejoe	40	Moderate		Low	
		Texture/rock fragments	0.50		
Strawfield	30	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Penhook	25	Moderate		Low	
		Texture/rock fragments	0.50		
27B:					
Minnieville	90	Low		Low	
27C:					
Minnieville	90	Low		Low	
27D:					
Minnieville	90	Low		Low	
27E:					
Minnieville	90	Low		Low	
28C:					
Minnieville	45	Low		Low	
Orenda	25	Moderate		Low	
		Texture/rock fragments	0.50		
Redbrush	25	Moderate		Low	
		Texture/rock fragments	0.50		
28D:					
Minnieville	45	Low		Low	
Orenda	25	Moderate		Low	
		Texture/rock fragments	0.50		
Redbrush	25	Moderate		Low	
		Texture/rock fragments	0.50		
29C:					
Minnieville	75	Low		Low	
Urban land	20	Not rated		Not rated	
30C:					
Myersville	90	Low		Low	
		Texture/surface depth/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
30D:					
Myersville----------	90	Low		Low	
		Texture/surface depth/rock fragments	0.10		
31E:					
Myersville----------	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Walnut--------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
32F:					
Myersville----------	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Walnut--------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
33E:					
Peaks---------------	40	Low		Low	
		Texture/slope/ rock fragments	0.10		
Ashe----------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Edneyville----------	20	Low		Low	
		Texture/slope/ rock fragments	0.10		
33F:					
Peaks---------------	40	Low		Low	
		Texture/slope/ rock fragments	0.10		
Ashe----------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Edneyville----------	20	Low		Low	
		Texture/slope/ rock fragments	0.10		
34F:					
Siloam--------------	65	Moderate		Low	
		Texture/slope/ rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
34F:					
Bluemount	20	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
35C:					
Thurmont	55	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Urban land	20	Not rated		Not rated	
Wintergreen	15	Low		Low	
36B:					
Thurmont	65	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Wintergreen	20	Low		Low	
36C:					
Thurmont	65	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Wintergreen	20	Low		Low	
36D:					
Thurmont	65	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Wintergreen	20	Low		Low	
37E:					
Trimont	45	Low		Low	
		Texture/rock fragments	0.10		
Porters	35	Low		Low	
		Texture/rock fragments	0.10		
37F:					
Trimont	45	Low		Low	
		Texture/rock fragments	0.10		
Porters	35	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
38C:					
Watauga	60	Low		Low	
		Texture/rock fragments	0.10		
Brownwood	35	Low		Low	
		Texture/rock fragments	0.10		
38D:					
Watauga	60	Low		Low	
		Texture/rock fragments	0.10		
Brownwood	35	Low		Low	
		Texture/rock fragments	0.10		
38E:					
Watauga	60	Low		Low	
		Texture/slope/ rock fragments	0.10		
Brownwood	35	Low		Low	
		Texture/slope/ rock fragments	0.10		
39B:					
Wintergreen	95	Low		Low	
39C:					
Wintergreen	95	Low		Low	
39D:					
Wintergreen	90	Low		Low	
40C:					
Woolwine	50	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Fairview	30	Low		Low	
		Texture/rock fragments	0.10		
Westfield	15	Low		Low	
		Texture/surface depth/rock fragments	0.10		
40D:					
Woolwine	55	Low		Low	
		Texture/surface depth/rock fragments	0.10		
Fairview	25	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
40D:					
Westfield-----------	15	Low		Low	
		Texture/surface depth/rock fragments	0.10		
40E:					
Woolwine------------	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Fairview------------	25	Low		Low	
		Texture/rock fragments	0.10		
Westfield-----------	10	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
W:					
Water---------------	100	Not rated		Not rated	

Table 11.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to bedrock	0.84
Edneyville	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Large stones content	0.47
Peaks	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
2D:							
Ashe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to bedrock	0.84
Peaks	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
Edneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Large stones content	0.47
3D:							
Bluemount	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.94
						Depth to bedrock	0.90
Redbrush	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Depth to bedrock	0.46
Spriggs	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.20	Gravel content	0.20	Gravel content	1.00
						Depth to bedrock	0.01

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4E:							
Bluemount-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.94
						Depth to bedrock	0.90
Spriggs-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.20	Gravel content	0.20	Gravel content	1.00
						Depth to bedrock	0.01
5C:							
Bluemount-----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.94
						Depth to bedrock	0.90
Spriggs-------------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.20	Gravel content	0.20	Gravel content	1.00
						Depth to bedrock	0.01
Redbrush------------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Depth to bedrock	0.46
6C:							
Brownwood-----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Depth to bedrock	0.10
Chandler------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
6D:							
Brownwood-----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Depth to bedrock	0.10
Chandler------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
6E:							
Brownwood-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Depth to bedrock	0.10

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
6E:							
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
6F:							
Brownwood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Depth to bedrock	0.10
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
7B:							
Clifford	95	Not limited		Not limited		Somewhat limited	
						Slope	0.88
7C:							
Clifford	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
7D:							
Clifford	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
8E:							
Clifford	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Hickoryknob	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
9C:							
Clifford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.88
Delanco	30	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.21	Slope	0.88
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
		Slow water movement	0.21			Slow water movement	0.21
11A:							
Comus	45	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
11A:							
Maggodee	20	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
Elsinboro	20	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
12C:							
Cowee	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46
Cliffield	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.35	Large stones content	0.35	Gravel content	0.99
						Depth to bedrock	0.95
Evard	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
12D:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.35	Large stones content	0.35	Gravel content	0.99
						Depth to bedrock	0.95
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
12E:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.35	Large stones content	0.35	Gravel content	0.99
						Depth to bedrock	0.95
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
13D:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
13D:							
Tuckasegee----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Gravel content	0.27
13E:							
Cullasaja-----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
Tuckasegee----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Gravel content	0.27
14C:							
Cullasaja-----------	40	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.47	Large stones content	0.47	Slope	1.00
		Slope	0.16	Slope	0.16	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
Tuckasegee----------	25	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.47	Large stones content	0.47	Slope	1.00
		Slope	0.16	Slope	0.16	Large stones content	0.47
						Gravel content	0.27
Dellwood------------	20	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Large stones content	0.47	Flooding	0.60
		Large stones content	0.47	Depth to saturated zone	0.19	Large stones content	0.47
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
15E:							
Drapermill----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Depth to bedrock	0.10
16C:							
Edneytown-----------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	0.96
						Large stones content	0.47
Sauratown-----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Depth to bedrock	0.80

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
16D:							
Edneytown-----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Large stones content	0.47
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Depth to bedrock	0.80
16E:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Large stones content	0.47
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Depth to bedrock	0.80
16F:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Large stones content	0.47
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Depth to bedrock	0.80
17B:							
Elsinboro-----------	70	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.88
Colescreek----------	20	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.88
18E:							
Goblintown----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
Drapermill----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Depth to bedrock	0.10
Penhook-------------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.01

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
19C:							
Hayesville----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.08
19D:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.08
20E:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Gravel content	0.08
21F:							
Hickoryknob---------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
Rhodhiss------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.04
22C:							
Hickoryknob---------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.95
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.04
Stott Knob----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.03
						Depth to bedrock	0.01
22D:							
Hickoryknob---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.04
Stott Knob----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.03
						Depth to bedrock	0.01
22E:							
Hickoryknob---------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
22E:							
Rhodhiss	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.04
Stott Knob	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.03
						Depth to bedrock	0.01
23A:							
Iotla	30	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
Maggodee	25	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
Colescreek	25	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
24B:							
Jackland	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	0.88
Mirerock	30	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.23	Gravel content	0.23	Gravel content	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
						Slow water movement	0.15
Redbrush	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.60	Slow water movement	0.60	Slope	0.88
						Slow water movement	0.60
						Depth to bedrock	0.46
24C:							
Jackland	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
Mirerock	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.23	Gravel content	0.23	Gravel content	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
24C:							
Redbrush	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Depth to bedrock	0.46
25C:							
Littlejoe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Penhook	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.01
Goblintown	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.06
25D:							
Littlejoe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Penhook	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.01
Goblintown	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
26C:							
Littlejoe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Strawfield	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.97
Penhook	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.01
26D:							
Littlejoe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Strawfield	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.97
Penhook	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.01
27B:							
Minnieville	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
27C:							
Minnieville----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
27D:							
Minnieville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
27E:							
Minnieville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
28C:							
Minnieville----------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Orenda--------------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.22
						Slow water movement	0.15
Redbrush------------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Depth to bedrock	0.46
28D:							
Minnieville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Orenda--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.22
						Slow water movement	0.15
Redbrush------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Depth to bedrock	0.46
29C:							
Minnieville----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
30D:							
Myersville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
31E:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Large stones content	0.47
32F:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Large stones content	0.47
33E:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to bedrock	0.84
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Large stones content	0.47
33F:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.05	Gravel content	0.05	Large stones content	0.47
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to bedrock	0.84
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Gravel content	1.00
		Gravel content	0.03	Gravel content	0.03	Large stones content	0.47

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
34F:							
Siloam	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Bluemount	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.94
						Depth to bedrock	0.90
35C:							
Thurmont	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
36B:							
Thurmont	65	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Wintergreen	20	Not limited		Not limited		Somewhat limited	
						Slope	0.88
36C:							
Thurmont	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Wintergreen	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
36D:							
Thurmont	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wintergreen	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
37E:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Gravel content	0.03
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
37F:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
						Gravel content	0.03

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
37F:							
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.47
38C:							
Watauga	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Brownwood	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.10
38D:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.10
38E:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.10
39B:							
Wintergreen	95	Not limited		Not limited		Somewhat limited	
						Slope	0.88
39C:							
Wintergreen	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
39D:							
Wintergreen	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
40C:							
Woolwine	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.65
						Gravel content	0.08
Fairview	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Westfield	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
40D:							
Woolwine	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
						Gravel content	0.08

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
40D:							
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Westfield-----------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
40E:							
Woolwine------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
						Gravel content	0.08
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Westfield-----------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 11.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
1C:							
Ashe	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Slope	0.63
						Droughty	0.46
Edneyville	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Slope	0.63
						Large stones content	0.05
						Gravel content	0.03
Peaks	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Droughty	0.65
						Slope	0.63
						Depth to bedrock	0.16
2D:							
Ashe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Depth to bedrock	0.84
						Droughty	0.46
Peaks	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Droughty	0.65
						Depth to bedrock	0.16
Edneyville	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.05
						Gravel content	0.03
3D:							
Bluemount	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.90
						Large stones content	0.26
Redbrush	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.04
Spriggs	15	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Gravel content	0.20
						Depth to bedrock	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
4E:							
Bluemount-----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Depth to bedrock	0.90
						Large stones content	0.26
Spriggs-------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Gravel content	0.20
						Depth to bedrock	0.01
5C:							
Bluemount-----------	55	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.90
						Slope	0.63
						Large stones content	0.26
Spriggs-------------	20	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.20
						Depth to bedrock	0.01
Redbrush------------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.46
						Droughty	0.04
6C:							
Brownwood-----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Slope	0.63
						Large stones content	0.11
						Depth to bedrock	0.10
Chandler------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Slope	0.63
						Large stones content	0.01
6D:							
Brownwood-----------	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.11
						Depth to bedrock	0.10
Chandler------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.01
6E:							
Brownwood-----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.11
						Depth to bedrock	0.10

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
6E:							
Chandler	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
6F:							
Brownwood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.11
						Depth to bedrock	0.10
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
7B:							
Clifford	95	Not limited		Not limited		Not limited	
7C:							
Clifford	95	Not limited		Not limited		Somewhat limited	
						Slope	0.63
7D:							
Clifford	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
8E:							
Clifford	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
Hickoryknob	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Depth to bedrock	0.95
						Droughty	0.20
9C:							
Clifford	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Not limited		Not limited		Not limited	
Delanco	30	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
11A:							
Comus	45	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
Maggodee	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
Elsinboro	20	Not limited		Not limited		Not limited	

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
12C:							
Cowee	40	Not limited		Not limited		Somewhat limited	
						Large stones content	0.68
						Slope	0.63
						Depth to bedrock	0.46
Cliffield	25	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.35	Large stones content	0.35	Large stones content	1.00
						Droughty	0.99
						Depth to bedrock	0.95
Evard	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.54
						Gravel content	0.01
12D:							
Cowee	40	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.68
						Depth to bedrock	0.46
Cliffield	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.35	Slope	1.00
		Large stones content	0.35			Large stones content	1.00
						Droughty	0.99
Evard	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.54
						Gravel content	0.01
12E:							
Cowee	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Large stones content	0.68
						Depth to bedrock	0.46
Cliffield	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.35	Large stones content	0.35	Large stones content	1.00
						Droughty	0.99
Evard	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Large stones content	0.54
						Gravel content	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
13D:							
Cullasaja	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.68
						Droughty	0.09
Tuckasegee	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.95
13E:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.68
						Droughty	0.09
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.95
14C:							
Cullasaja	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.68
						Slope	0.16
						Droughty	0.09
Tuckasegee	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.95
						Slope	0.16
Dellwood	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Droughty	0.99
						Large stones content	0.92
						Flooding	0.60
15E:							
Drapermill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.10
						Gravel content	0.04
16C:							
Edneytown	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Slope	0.63
						Large stones content	0.03
Sauratown	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.80
						Slope	0.63
						Large stones content	0.32

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
16D:							
Edneytown-----------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.03
						Gravel content	0.01
Sauratown-----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Depth to bedrock	0.80
						Large stones content	0.32
16E:							
Edneytown-----------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.03
						Gravel content	0.01
Sauratown-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.80
						Large stones content	0.32
16F:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.03
						Gravel content	0.01
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.80
						Large stones content	0.32
17B:							
Elsinboro-----------	70	Not limited		Not limited		Not limited	
Colescreek----------	20	Not limited		Not limited		Not limited	
18E:							
Goblintown----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
Drapermill----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.10
						Gravel content	0.04
Penhook-------------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Large stones content	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
19C:							
Hayesville----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
19D:							
Hayesville----------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
20E:							
Hayesville----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47		
21F:							
Hickoryknob---------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
						Droughty	0.20
Rhodhiss------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Large stones content	0.01
22C:							
Hickoryknob---------	35	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.95
						Slope	0.63
						Droughty	0.20
Rhodhiss------------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
Stott Knob----------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.01
22D:							
Hickoryknob---------	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.95
						Droughty	0.20
Rhodhiss------------	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01
Stott Knob----------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01
22E:							
Hickoryknob---------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
						Droughty	0.20

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
22E:							
Rhodhiss	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Large stones content	0.01
Stott Knob	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
23A:							
Iotla	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
Maggodee	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
Colescreek	25	Not limited		Not limited		Not limited	
24B:							
Jackland	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Mirerock	30	Not limited		Not limited		Somewhat limited	
						Gravel content	0.23
						Large stones content	0.16
						Depth to bedrock	0.10
Redbrush	20	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Droughty	0.04
						Large stones content	0.01
24C:							
Jackland	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
Mirerock	30	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.23
						Large stones content	0.16
Redbrush	20	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.46
						Droughty	0.04

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
25C:							
Littlejoe-----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.03
Penhook-------------	35	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
Goblintown----------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.06
25D:							
Littlejoe-----------	40	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.03
Penhook-------------	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01
Goblintown----------	15	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.06
26C:							
Littlejoe-----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.03
Strawfield----------	30	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.97
						Slope	0.63
						Droughty	0.03
Penhook-------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
26D:							
Littlejoe-----------	40	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.03
Strawfield----------	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.97
						Droughty	0.03
Penhook-------------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
27B:							
Minnieville---------	90	Not limited		Not limited		Not limited	
27C:							
Minnieville---------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.63
27D:							
Minnieville---------	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
27E:							
Minnieville---------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
28C:							
Minnieville---------	45	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Orenda--------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Redbrush------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.46
						Droughty	0.04
28D:							
Minnieville---------	45	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Orenda--------------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Redbrush------------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.04
29C:							
Minnieville---------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.47	Large stones content	0.47	Slope	0.63
						Large stones content	0.01
30D:							
Myersville----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.47	Slope	1.00
		Large stones content	0.47			Large stones content	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
31E:							
Myersville----------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
Walnut--------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Droughty	0.19
32F:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Droughty	0.19
33E:							
Peaks---------------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Droughty	0.65
						Depth to bedrock	0.16
Ashe----------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Droughty	0.46
Edneyville----------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.05
						Gravel content	0.03
33F:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Droughty	0.65
						Depth to bedrock	0.16
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Depth to bedrock	0.84
						Droughty	0.46
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.05
						Gravel content	0.03
34F:							
Siloam--------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	1.00
						Droughty	0.99

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F:							
Bluemount-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.90
						Large stones content	0.26
35C:							
Thurmont------------	55	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
Wintergreen---------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.63
36B:							
Thurmont------------	65	Not limited		Not limited		Somewhat limited	
						Large stones content	0.01
Wintergreen---------	20	Not limited		Not limited		Not limited	
36C:							
Thurmont------------	65	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
Wintergreen---------	20	Not limited		Not limited		Somewhat limited	
						Slope	0.63
36D:							
Thurmont------------	65	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01
Wintergreen---------	20	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
37E:							
Trimont-------------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47		
Porters-------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
37F:							
Trimont-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47		

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
37F:							
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.47	Large stones content	0.47	Large stones content	0.01
38C:							
Watauga	60	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
Brownwood	35	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.11
						Depth to bedrock	0.10
38D:							
Watauga	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01
Brownwood	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.11
						Depth to bedrock	0.10
38E:							
Watauga	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Large stones content	0.01
Brownwood	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Large stones content	0.11
						Depth to bedrock	0.10
39B:							
Wintergreen	95	Not limited		Not limited		Not limited	
39C:							
Wintergreen	95	Not limited		Not limited		Somewhat limited	
						Slope	0.63
39D:							
Wintergreen	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
40C:							
Woolwine	50	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Slope	0.63
						Droughty	0.02

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
40C:							
Fairview------------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Westfield-----------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
40D:							
Woolwine------------	55	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.02
Fairview------------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Westfield-----------	15	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Large stones content	0.01
40E:							
Woolwine------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.02
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Westfield-----------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Large stones content	0.01
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe----------------	40	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.84
Edneyville----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Peaks---------------	20	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Large stones content	0.19	Slope	0.63	Large stones content	0.19
		Depth to hard bedrock	0.15	Large stones content	0.19	Depth to hard bedrock	0.15
2D:							
Ashe----------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
Peaks---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.19	Depth to hard bedrock	1.00	Large stones content	0.19
		Depth to hard bedrock	0.15	Large stones content	0.19	Depth to hard bedrock	0.15
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
3D:							
Bluemount-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Redbrush------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
Spriggs-------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
4E:							
Bluemount-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Spriggs-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		
5C:							
Bluemount-----------	55	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Slope	1.00
						Depth to hard bedrock	0.90
		Slope	0.63	Slope	0.63		
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Spriggs-------------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		
Redbrush------------	15	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.01			Depth to hard bedrock	0.01
				Slope	0.63		
6C:							
Brownwood-----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.84	Slope	1.00
				Slope	0.63		
				Depth to soft bedrock	0.10		
Chandler------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
6D:							
Brownwood-----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
				Depth to soft bedrock	0.10		
Chandler------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
6E:							
Brownwood-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
				Depth to soft bedrock	0.10		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
6E:							
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
6F:							
Brownwood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
				Depth to soft bedrock	0.10		
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
7B:							
Clifford	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
7C:							
Clifford	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
7D:							
Clifford	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
8E:							
Clifford	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Hickoryknob	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
				Depth to soft bedrock	0.95		
9C:							
Clifford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.99	Slope	0.12
Delanco	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
11A:							
Comus	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
11A:							
Maggodee	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Elsinboro	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.16		
12C:							
Cowee	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.93	Slope	1.00
				Slope	0.63		
				Depth to soft bedrock	0.46		
Cliffield	25	Very limited		Very limited		Very limited	
		Large stones content	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Large stones content	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.95
Evard	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
12D:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.93		
				Depth to soft bedrock	0.46		
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	1.00	Depth to hard bedrock	1.00	Large stones content	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Depth to hard bedrock	0.95
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12E:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.93		
				Depth to soft bedrock	0.46		
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	1.00	Depth to hard bedrock	1.00	Large stones content	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Depth to hard bedrock	0.95

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
12E:							
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
13D:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.15	Large stones content	0.15	Large stones content	0.15
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
13E:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.15	Large stones content	0.15	Large stones content	0.15
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
14C:							
Cullasaja	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Large stones content	0.15	Large stones content	0.15	Large stones content	0.15
Tuckasegee	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Dellwood	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
		Large stones content	0.14	Large stones content	0.14	Large stones content	0.14
15E:							
Drapermill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Depth to hard bedrock	1.00	Depth to hard bedrock	0.10
16C:							
Edneytown	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Sauratown	25	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to soft bedrock	0.79	Depth to hard bedrock	0.20
				Slope	0.63		
16D:							
Edneytown	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
16D:							
Sauratown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
				Depth to soft bedrock	0.79		
16E:							
Edneytown	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Sauratown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
				Depth to soft bedrock	0.79		
16F:							
Edneytown	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Sauratown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
				Depth to soft bedrock	0.79		
17B:							
Elsinboro	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.16	Slope	0.12
Colescreek	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.99	Slope	0.12
18E:							
Goblintown	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.06		
Drapermill	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Depth to hard bedrock	1.00	Depth to hard bedrock	0.10
Penhook	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
19C:							
Hayesville	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
19D:							
Hayesville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20E:							
Hayesville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21F:							
Hickoryknob	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
				Depth to soft bedrock	0.95		
Rhodhiss	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
22C:							
Hickoryknob	35	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to soft bedrock	0.95	Depth to hard bedrock	0.06
				Slope	0.63		
Rhodhiss	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Stott Knob	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
				Depth to soft bedrock	0.01		
22D:							
Hickoryknob	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
				Depth to soft bedrock	0.95		
Rhodhiss	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Stott Knob	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
22E:							
Hickoryknob	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
				Depth to soft bedrock	0.95		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
22E:							
Rhodhiss------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Stott Knob----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
23A:							
Iotla---------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Maggodee------------	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Colescreek----------	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.99		
24B:							
Jackland------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.12
Mirerock------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.54	Slope	0.12
				Depth to soft bedrock	0.10		
Redbrush------------	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Slope	0.12
				Depth to soft bedrock	0.46	Depth to hard bedrock	0.01
24C:							
Jackland------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Shrink-swell	1.00
Mirerock------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Shrink-swell	1.00
				Depth to hard bedrock	0.54		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
24C:							
Redbrush	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.01	Slope	0.63	Depth to hard bedrock	0.01
25C:							
Littlejoe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Penhook	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Goblintown	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.06		
25D:							
Littlejoe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Penhook	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Goblintown	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.06		
26C:							
Littlejoe	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Strawfield	30	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.97
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Penhook	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
26D:							
Littlejoe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements Rating class and limiting features	Value	Dwellings with basements Rating class and limiting features	Value	Small commercial buildings Rating class and limiting features	Value
26D:							
Strawfield	30	Very limited Slope Depth to hard bedrock Shrink-swell	 1.00 0.97 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	 1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	 1.00 0.97 0.50
Penhook	25	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
27B:							
Minnieville	90	Somewhat limited Shrink-swell	 0.50	Somewhat limited Shrink-swell	 0.50	Somewhat limited Shrink-swell Slope	 0.50 0.12
27C:							
Minnieville	90	Somewhat limited Slope Shrink-swell	 0.63 0.50	Somewhat limited Slope Shrink-swell	 0.63 0.50	Very limited Slope Shrink-swell	 1.00 0.50
27D:							
Minnieville	90	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
27E:							
Minnieville	90	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
28C:							
Minnieville	45	Somewhat limited Slope Shrink-swell	 0.63 0.50	Somewhat limited Slope Shrink-swell	 0.63 0.50	Very limited Slope Shrink-swell	 1.00 0.50
Orenda	25	Somewhat limited Slope Shrink-swell	 0.63 0.50	Somewhat limited Slope	 0.63	Very limited Slope Shrink-swell	 1.00 0.50
Redbrush	25	Very limited Shrink-swell Slope Depth to hard bedrock	 1.00 0.63 0.01	Very limited Shrink-swell Depth to hard bedrock Slope	 1.00 1.00 0.63	Very limited Slope Shrink-swell Depth to hard bedrock	 1.00 1.00 0.01
28D:							
Minnieville	45	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
Orenda	25	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope	 1.00	Very limited Slope Shrink-swell	 1.00 0.50
Redbrush	25	Very limited Slope Shrink-swell Depth to hard bedrock	 1.00 1.00 0.01	Very limited Slope Shrink-swell Depth to hard bedrock	 1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	 1.00 1.00 0.01

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
29C:							
Minnieville----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
30D:							
Myersville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
31E:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99		
				Depth to soft bedrock	0.84		
32F:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99		
				Depth to soft bedrock	0.84		
33E:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.19	Depth to hard bedrock	1.00	Large stones content	0.19
		Depth to hard bedrock	0.15	Large stones content	0.19	Depth to hard bedrock	0.15
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
33F:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.19	Depth to hard bedrock	1.00	Large stones content	0.19
		Depth to hard bedrock	0.15	Large stones content	0.19	Depth to hard bedrock	0.15

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
33F:							
Ashe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
Edneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
34F:							
Siloam	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.97
Bluemount	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
35C:							
Thurmont	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
				Depth to saturated zone	0.01		
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
36B:							
Thurmont	65	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.01	Slope	0.12
Wintergreen	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
36C:							
Thurmont	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
				Depth to saturated zone	0.01		
Wintergreen	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
36D:							
Thurmont	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.01		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
36D:							
Wintergreen---------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
37E:							
Trimont-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Porters-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
37F:							
Trimont-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Porters-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
38C:							
Watauga-------------	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Brownwood-----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.84	Slope	1.00
				Slope	0.63		
				Depth to soft bedrock	0.10		
38D:							
Watauga-------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Brownwood-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
				Depth to soft bedrock	0.10		
38E:							
Watauga-------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Brownwood-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
				Depth to soft bedrock	0.10		
39B:							
Wintergreen---------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
39C:							
Wintergreen---------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
39D:							
Wintergreen---------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
40C:							
Woolwine------------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.96	Slope	1.00
				Depth to soft bedrock	0.64		
				Slope	0.63		
Fairview------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Westfield-----------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
40D:							
Woolwine------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.96		
				Depth to soft bedrock	0.64		
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Westfield-----------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
40E:							
Woolwine------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.96		
				Depth to soft bedrock	0.64		
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Westfield-----------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to bedrock	0.84
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.46
Edneyville	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.05
						Gravel content	0.03
Peaks	20	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Droughty	0.65
		Frost action	0.50	Slope	0.63	Slope	0.63
		Large stones content	0.19	Large stones content	0.19	Depth to bedrock	0.16
2D:							
Ashe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Slope	1.00	Depth to bedrock	0.84
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.46
Peaks	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.65
		Large stones content	0.19	Large stones content	0.19	Depth to bedrock	0.16
Edneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.05
						Gravel content	0.03
3D:							
Bluemount	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Depth to bedrock	0.90
		Shrink-swell	0.50	Large stones content	0.18	Large stones content	0.26
Redbrush	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.46
		Low strength	1.00	Depth to soft bedrock	0.46	Droughty	0.04

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
3D:							
Spriggs	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.20
				Depth to hard bedrock	0.26	Depth to bedrock	0.01
4E:							
Bluemount	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Depth to bedrock	0.90
		Shrink-swell	0.50	Large stones content	0.18	Large stones content	0.26
Spriggs	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.20
				Depth to hard bedrock	0.26	Depth to bedrock	0.01
5C:							
Bluemount	55	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to bedrock	0.90
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.50	Large stones content	0.18	Large stones content	0.26
Spriggs	20	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Shrink-swell	0.50	Slope	0.63	Gravel content	0.20
				Depth to hard bedrock	0.26	Depth to bedrock	0.01
Redbrush	15	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Slope	0.63
		Low strength	1.00	Slope	0.63	Depth to bedrock	0.46
		Slope	0.63	Depth to soft bedrock	0.46	Droughty	0.04
6C:							
Brownwood	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	0.84	Slope	0.63
		Frost action	0.50	Slope	0.63	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
Chandler	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
6D:							
Brownwood	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
6D:							
Chandler------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
6E:							
Brownwood-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
Chandler------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
6F:							
Brownwood-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
Chandler------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
7B:							
Clifford------------	95	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Cutbanks cave	0.10		
7C:							
Clifford------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Cutbanks cave	0.10		
7D:							
Clifford------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Cutbanks cave	0.10		
8E:							
Clifford------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Cutbanks cave	0.10		
Hickoryknob---------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to bedrock	0.95
				Depth to soft bedrock	0.95	Droughty	0.20

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
9C:							
Clifford	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Somewhat limited		Very limited		Not limited	
		Low strength	0.78	Cutbanks cave	1.00		
		Flooding	0.40	Depth to saturated zone	0.99		
Delanco	30	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Flooding	0.40	Cutbanks cave	1.00		
		Depth to saturated zone	0.19				
11A:							
Comus	45	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
Maggodee	20	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
Elsinboro	20	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Depth to saturated zone	0.16		
				Cutbanks cave	0.10		
12C:							
Cowee	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	0.93	Large stones content	0.68
		Frost action	0.50	Slope	0.63	Slope	0.63
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
Cliffield	25	Very limited		Very limited		Very limited	
		Large stones content	1.00	Depth to hard bedrock	1.00	Large stones content	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Droughty	0.99
		Slope	0.63	Slope	0.63	Depth to bedrock	0.95
Evard	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Large stones content	0.54
						Gravel content	0.01

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
12D:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.93	Large stones content	0.68
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones content	1.00	Slope	1.00	Large stones content	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Droughty	0.99
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Large stones content	0.54
						Gravel content	0.01
12E:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.93	Large stones content	0.68
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones content	1.00	Slope	1.00	Large stones content	1.00
		Depth to hard bedrock	0.95	Large stones content	1.00	Droughty	0.99
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Large stones content	0.54
						Gravel content	0.01
13D:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones content	0.15	Large stones content	0.68
		Large stones content	0.15	Cutbanks cave	0.10	Droughty	0.09
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.95
13E:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones content	0.15	Large stones content	0.68
		Large stones content	0.15	Cutbanks cave	0.10	Droughty	0.09

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
13E:							
Tuckasegee----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.95
14C:							
Cullasaja-----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.16	Large stones content	0.68
		Slope	0.16	Large stones content	0.15	Slope	0.16
		Large stones content	0.15	Cutbanks cave	0.10	Droughty	0.09
Tuckasegee----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.16	Large stones content	0.95
		Slope	0.16	Cutbanks cave	0.10	Slope	0.16
Dellwood------------	20	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Droughty	0.99
		Depth to saturated zone	0.19	Cutbanks cave	1.00	Large stones content	0.92
		Large stones content	0.14	Flooding	0.60	Flooding	0.60
15E:							
Drapermill----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Slope	1.00	Depth to bedrock	0.10
				Cutbanks cave	1.00	Gravel content	0.04
16C:							
Edneytown-----------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.03
Sauratown-----------	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Depth to soft bedrock	0.79	Slope	0.63
		Depth to hard bedrock	0.20	Slope	0.63	Large stones	0.32
16D:							
Edneytown-----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.03
						Gravel content	0.01
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.80
		Depth to hard bedrock	0.20	Depth to soft bedrock	0.79	Large stones content	0.32

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
16E:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones	0.03
						content	
						Gravel content	0.01
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard	1.00	Slope	1.00
		Frost action	0.50	bedrock		Depth to bedrock	0.80
		Depth to hard	0.20	Slope	1.00	Large stones	0.32
		bedrock		Depth to soft	0.79	content	0.32
				bedrock			
16F:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones	0.03
						content	
						Gravel content	0.01
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard	1.00	Slope	1.00
		Frost action	0.50	bedrock		Depth to bedrock	0.80
		Depth to hard	0.20	Slope	1.00	Large stones	0.32
		bedrock		Depth to soft	0.79	content	
				bedrock			
17B:							
Elsinboro-----------	70	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Depth to	0.16		
				saturated zone			
				Cutbanks cave	0.10		
Colescreek----------	20	Somewhat limited		Very limited		Not limited	
		Low strength	0.78	Cutbanks cave	1.00		
		Flooding	0.40	Depth to	0.99		
				saturated zone			
18E:							
Goblintown----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12	Depth to bedrock	0.06
		Shrink-swell	0.50	Cutbanks cave	0.10		
Drapermill----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard	1.00	Slope	1.00
		Depth to hard	0.10	bedrock		Depth to bedrock	0.10
		bedrock		Slope	1.00	Gravel content	0.04
				Cutbanks cave	1.00		
Penhook-------------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Large stones	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10	content	
19C:							
Hayesville----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Too clayey	0.32		
		Low strength	0.10	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
19D:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.32		
		Low strength	0.10	Cutbanks cave	0.10		
20E:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.32		
		Low strength	0.10	Cutbanks cave	0.10		
21F:							
Hickoryknob---------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to bedrock	0.95
				Depth to soft bedrock	0.95	Droughty	0.21
Rhodhiss------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Large stones content	0.01
22C:							
Hickoryknob---------	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Depth to bedrock	0.95
		Depth to hard bedrock	0.06	Depth to soft bedrock	0.95	Slope	0.63
				Slope	0.63	Droughty	0.20
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10	Large stones content	0.01
Stott Knob----------	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
22D:							
Hickoryknob---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to bedrock	0.95
				Depth to soft bedrock	0.95	Droughty	0.20
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Large stones content	0.01

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
22D:							
Stott Knob----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
22E:							
Hickoryknob---------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06			Depth to bedrock	0.95
				Slope	1.00	Droughty	0.20
				Depth to soft bedrock	0.95		
Rhodhiss------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Large stones content	0.01
Stott Knob----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
23A:							
Iotla---------------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75				
				Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
Maggodee------------	25	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75				
				Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
Colescreek----------	25	Somewhat limited		Very limited		Not limited	
		Low strength	0.78	Cutbanks cave	1.00		
		Flooding	0.40	Depth to saturated zone	0.99		
24B:							
Jackland------------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00				
				Too clayey	0.32		
		Low strength	1.00	Cutbanks cave	0.10		
Mirerock------------	30	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	0.54	Gravel content	0.23
		Shrink-swell	1.00			Large stones content	0.16
				Too clayey	0.32		
				Cutbanks cave	0.10	Depth to bedrock	0.10

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
24B:							
Redbrush------------	20	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.46
		Low strength	1.00			Droughty	0.04
		Depth to hard bedrock	0.01	Depth to soft bedrock	0.46	Large stones content	0.01
				Too clayey	0.32		
24C:							
Jackland------------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.63	Slope	0.63
		Low strength	1.00	Too clayey	0.32		
Mirerock------------	30	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Shrink-swell	1.00	Depth to hard bedrock	0.54	Gravel content	0.23
		Slope	0.63			Large stones content	0.16
				Too clayey	0.32		
Redbrush------------	20	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Slope	0.63
		Low strength	1.00			Depth to bedrock	0.46
		Slope	0.63	Slope	0.63	Droughty	0.04
				Depth to soft bedrock	0.46		
25C:							
Littlejoe-----------	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Large stones content	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
Penhook-------------	35	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Large stones content	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
Goblintown----------	15	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.12	Depth to bedrock	0.06
		Shrink-swell	0.50	Cutbanks cave	0.10		
25D:							
Littlejoe-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Large stones content	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
Penhook-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Large stones content	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
Goblintown----------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12	Depth to bedrock	0.06
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26C:							
Littlejoe	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Large stones content	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
Strawfield	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.97
		Depth to hard bedrock	0.97	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Droughty	0.03
Penhook	25	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Large stones content	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
26D:							
Littlejoe	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Large stones content	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
Strawfield	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.97
		Depth to hard bedrock	0.97	Too clayey	0.32	Droughty	0.03
Penhook	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Large stones content	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
27B:							
Minnieville	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		
27C:							
Minnieville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Too clayey	0.76	Slope	0.63
		Shrink-swell	0.50	Slope	0.63		
		Low strength	0.10	Cutbanks cave	0.10		
27D:							
Minnieville	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		
27E:							
Minnieville	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
28C:							
Minnieville---------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Too clayey	0.76	Slope	0.63
		Shrink-swell	0.50	Slope	0.63		
		Low strength	0.10	Cutbanks cave	0.10		
Orenda--------------	25	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Redbrush------------	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Slope	0.63
		Low strength	1.00			Depth to bedrock	0.46
		Slope	0.63	Slope	0.63	Droughty	0.04
				Depth to soft bedrock	0.46		
28D:							
Minnieville---------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		
Orenda--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Redbrush------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
		Low strength	1.00	Slope	1.00	Droughty	0.04
				Depth to soft bedrock	0.46		
29C:							
Minnieville---------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Too clayey	0.76	Slope	0.63
		Shrink-swell	0.50	Slope	0.63		
		Low strength	0.10	Cutbanks cave	0.10		
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10	Large stones content	0.01
		Frost action	0.50				
30D:							
Myersville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10	Large stones content	0.01
		Frost action	0.50				
31E:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10	Large stones content	0.01
		Frost action	0.50				

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
31E:							
Walnut	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.99	Depth to bedrock	0.84
				Depth to soft bedrock	0.84	Droughty	0.19
32F:							
Myersville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10	Large stones content	0.01
		Frost action	0.50				
Walnut	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.99	Depth to bedrock	0.84
				Depth to soft bedrock	0.84	Droughty	0.19
33E:							
Peaks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.65
		Large stones content	0.19	Large stones content	0.19	Depth to bedrock	0.16
Ashe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Slope	1.00	Depth to bedrock	0.84
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.46
Edneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.05
						Gravel content	0.03
33F:							
Peaks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.65
		Large stones content	0.19	Large stones content	0.19	Depth to bedrock	0.16
Ashe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Slope	1.00	Depth to bedrock	0.84
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.46
Edneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.05
						Gravel content	0.03

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
34F:							
Siloam	65	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Slope	1.00	Droughty	0.99
Bluemount	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Depth to bedrock	0.90
		Shrink-swell	0.50	Large stones content	0.18	Large stones content	0.26
35C:							
Thurmont	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10	Large stones content	0.01
				Depth to saturated zone	0.01		
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
36B:							
Thurmont	65	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Large stones content	0.01
				Depth to saturated zone	0.01		
Wintergreen	20	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
36C:							
Thurmont	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10	Large stones content	0.01
				Depth to saturated zone	0.01		
Wintergreen	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
36D:							
Thurmont	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Large stones content	0.01
				Depth to saturated zone	0.01		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
36D:							
Wintergreen	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
37E:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.01
				Cutbanks cave	0.10		
37F:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.01
				Cutbanks cave	0.10		
38C:							
Watauga	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
Brownwood	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	0.84	Slope	0.63
		Frost action	0.50	Slope	0.63	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
38D:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
38E:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
38E:							
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to hard bedrock	0.84	Large stones content	0.11
				Cutbanks cave	0.10	Depth to bedrock	0.10
39B:							
Wintergreen	95	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
39C:							
Wintergreen	95	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
39D:							
Wintergreen	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
40C:							
Woolwine	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	0.96	Depth to bedrock	0.65
		Low strength	0.10	Depth to soft bedrock	0.64	Slope	0.63
				Slope	0.63	Droughty	0.02
Fairview	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Too clayey	0.32		
				Cutbanks cave	0.10		
Westfield	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Too clayey	0.12	Large stones content	0.01
				Cutbanks cave	0.10		
40D:							
Woolwine	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Depth to hard bedrock	0.96	Depth to bedrock	0.65
				Depth to soft bedrock	0.64	Droughty	0.02
Fairview	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Too clayey	0.32		
				Cutbanks cave	0.10		
Westfield	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Too clayey	0.12	Large stones content	0.01
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
40E:							
Woolwine------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Depth to hard bedrock	0.96	Depth to bedrock	0.65
						Droughty	0.02
				Depth to soft bedrock	0.64		
Fairview------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Too clayey	0.32		
				Cutbanks cave	0.10		
Westfield-----------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.10	Too clayey	0.12	Large stones content	0.01
				Cutbanks cave	0.10		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 13.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1C:					
Ashe	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
Edneyville	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
Peaks	20	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Filtering capacity	1.00	Seepage	1.00
2D:					
Ashe	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Peaks	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
3D:					
Bluemount	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Redbrush	30	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
3D:					
Spriggs	15	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
4E:					
Bluemount	50	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Spriggs	25	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
5C:					
Bluemount	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Spriggs	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Redbrush	15	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
6C:					
Brownwood	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
Chandler	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
6D:					
Brownwood	60	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
6D:					
Chandler------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
6E:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
6F:					
Brownwood-----------	50	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Chandler------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
7B:					
Clifford------------	95	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
7C:					
Clifford------------	95	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
7D:					
Clifford------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
8E:					
Clifford------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Hickoryknob---------	15	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
9C:					
Clifford------------	75	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
10B:					
Colescreek----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.68
		Slow water movement	0.50		
Delanco-------------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.68
				Seepage	0.53
		Flooding	0.40		
11A:					
Comus---------------	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
Maggodee------------	20	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Elsinboro-----------	20	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Slow water movement	0.50	Slope	0.08
		Depth to saturated zone	0.43		
12C:					
Cowee---------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.93
Cliffield-----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Large stones content	1.00	Slope	1.00
		Slope	0.63	Large stones content	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
12C:					
Evard---------------	25	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
12D:					
Cowee---------------	40	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.93
Cliffield-----------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Large stones content	1.00	Large stones content	1.00
Evard---------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
12E:					
Cowee---------------	40	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.93
Cliffield-----------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Large stones content	1.00	Large stones content	1.00
Evard---------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
13D:					
Cullasaja-----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones content	0.15	Large stones content	0.52
Tuckasegee----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Large stones content	0.19

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
13E:					
Cullasaja-----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones content	0.15	Large stones content	0.52
Tuckasegee----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Large stones content	0.19
14C:					
Cullasaja-----------	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.16	Large stones content	0.52
		Large stones content	0.15		
Tuckasegee----------	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.16	Large stones content	0.19
Dellwood------------	20	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
15E:					
Drapermill----------	85	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
16C:					
Edneytown-----------	65	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	0.63		
		Slow water movement	0.50		
Sauratown-----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63		
		Slow water movement	0.50	Depth to soft bedrock	1.00
				Slope	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
16D:					
Edneytown-----------	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	1.00
16E:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	1.00
16F:					
Edneytown-----------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Sauratown-----------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	1.00
17B:					
Elsinboro-----------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.68
		Slow water movement	0.50	Flooding	0.40
		Depth to saturated zone	0.43		
Colescreek----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.68
		Slow water movement	0.50		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
18E:					
Goblintown----------	45	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Drapermill----------	20	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Penhook-------------	10	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
19C:					
Hayesville----------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
19D:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
20E:					
Hayesville----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
21F:					
Hickoryknob---------	75	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rhodhiss------------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
22C:					
Hickoryknob	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Depth to soft bedrock	1.00
				Slope	1.00
Rhodhiss	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Stott Knob	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
22D:					
Hickoryknob	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rhodhiss	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Stott Knob	25	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
22E:					
Hickoryknob	45	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rhodhiss	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22E:					
Stott Knob----------	20	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
23A:					
Iotla---------------	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Maggodee------------	25	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Colescreek----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Slow water movement	0.50		
24B:					
Jackland------------	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
Mirerock------------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	0.68
				Depth to hard bedrock	0.54
Redbrush------------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.68
24C:					
Jackland------------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
24C:					
Mirerock------------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Depth to hard bedrock	0.54
Redbrush------------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
25C:					
Littlejoe-----------	40	Somewhat limited		Very limited	
		Depth to bedrock	0.94	Slope	1.00
		Slow water movement	0.68	Depth to soft bedrock	0.84
		Slope	0.63	Seepage	0.32
Penhook-------------	35	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Goblintown----------	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
25D:					
Littlejoe-----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.68	Seepage	0.32
Penhook-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Goblintown----------	15	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
26C:					
Littlejoe-----------	40	Somewhat limited		Very limited	
		Depth to bedrock	0.94	Slope	1.00
		Slow water movement	0.68	Depth to soft bedrock	0.84
		Slope	0.63	Seepage	0.32

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
26C:					
Strawfield----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
				Seepage	0.50
Penhook-------------	25	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
26D:					
Littlejoe-----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.68	Seepage	0.32
Strawfield----------	30	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
				Seepage	0.50
Penhook-------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
27B:					
Minnieville---------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
27C:					
Minnieville---------	90	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
27D:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
27E:					
Minnieville---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
28C:					
Minnieville---------	45	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
28C:					
Orenda--------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.63	Seepage	0.50
Redbrush------------	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
28D:					
Minnieville---------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Orenda--------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.50
Redbrush------------	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
29C:					
Minnieville---------	75	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
30C:					
Myersville----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.01
30D:					
Myersville----------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.01

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
31E:					
Myersville----------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.01
Walnut--------------	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
32F:					
Myersville----------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.01
Walnut--------------	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
33E:					
Peaks---------------	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Ashe----------------	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Edneyville----------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
33F:					
Peaks---------------	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Ashe----------------	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33F:					
Edneyville	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
34F:					
Siloam	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Bluemount	20	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
35C:					
Thurmont	55	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Urban land	20	Not rated		Not rated	
Wintergreen	15	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
36B:					
Thurmont	65	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.68
		Depth to saturated zone	0.01		
Wintergreen	20	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
36C:					
Thurmont	65	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Wintergreen	20	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
36D:					
Thurmont------------	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Wintergreen---------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
37E:					
Trimont-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Porters-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.98	Depth to soft bedrock	0.93
37F:					
Trimont-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Porters-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.98	Depth to soft bedrock	0.93
38C:					
Watauga-------------	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Brownwood-----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
38D:					
Watauga-------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
38D:					
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
38E:					
Watauga	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Brownwood	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
39B:					
Wintergreen	95	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
39C:					
Wintergreen	95	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
39D:					
Wintergreen	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
40C:					
Woolwine	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.96
Fairview	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Westfield	15	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	0.86	Seepage	1.00
		Slope	0.63	Depth to soft bedrock	0.61

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40D:					
Woolwine------------	55	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.96
Fairview------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Westfield-----------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.86	Depth to soft bedrock	0.61
40E:					
Woolwine------------	45	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.96
Fairview------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Westfield-----------	10	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.86	Depth to soft bedrock	0.61
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe----------------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
Edneyville----------	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
Peaks---------------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
2D:							
Ashe----------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Peaks---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
3D:							
Bluemount-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Redbrush------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Spriggs-------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
4E:							
Bluemount	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Spriggs	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
5C:							
Bluemount	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
Spriggs	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
Redbrush	15	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
6C:							
Brownwood	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
Chandler	40	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
6D:							
Brownwood	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Chandler	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
6E:							
Brownwood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
6E:							
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
6F:							
Brownwood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Chandler	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
7B:							
Clifford	95	Somewhat limited		Not limited		Not limited	
		Too clayey	0.50				
7C:							
Clifford	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50				
7D:							
Clifford	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
8E:							
Clifford	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
Hickoryknob	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
9C:							
Clifford	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50				
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Flooding	0.40	Depth to saturated zone	0.47
		Too clayey	0.50				

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
10B:							
Delanco	30	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
11A:							
Comus	45	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00				
Maggodee	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
Elsinboro	20	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
				Flooding	0.40		
		Too clayey	0.50				
12C:							
Cowee	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
Cliffield	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	1.00	Slope	0.63	Large stones	1.00
		Slope	0.63			Slope	0.63
Evard	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
12D:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	1.00			Large stones	1.00
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12E:							
Cowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
12E:							
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	1.00			Large stones content	1.00
Evard	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
13D:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Large stones content	0.24			Large stones content	0.24
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
13E:							
Cullasaja	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Large stones content	0.24			Large stones content	0.24
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
14C:							
Cullasaja	40	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Large stones content	0.24	Slope	0.16	Large stones content	0.24
		Slope	0.16			Slope	0.16
Tuckasegee	25	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
		Slope	0.16	Slope	0.16	Slope	0.16
Dellwood	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
15E:							
Drapermill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C:							
Edneytown-----------	65	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.63	Slope	0.63
		Slope	0.63			Too clayey	0.50
		Too clayey	0.50				
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
16D:							
Edneytown-----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
16E:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
16F:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Sauratown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
17B:							
Elsinboro-----------	70	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
		Too clayey	0.50	Flooding	0.40		

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
17B:							
Colescreek----------	20	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Flooding	0.40	Depth to saturated zone	0.47
		Too clayey	0.50				
18E:							
Goblintown----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
Drapermill----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Penhook-------------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
19C:							
Hayesville----------	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.63	Slope	0.63
		Slope	0.63			Too clayey	0.50
		Too clayey	0.50				
19D:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
20E:							
Hayesville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
21F:							
Hickoryknob---------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Rhodhiss------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
						Too clayey	0.50
22C:							
Hickoryknob---------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22C:							
Rhodhiss------------	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
						Too clayey	0.50
Stott Knob----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
22D:							
Hickoryknob---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
						Too clayey	0.50
Stott Knob----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
22E:							
Hickoryknob---------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Rhodhiss------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
						Too clayey	0.50
Stott Knob----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
23A:							
Iotla---------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
Maggodee------------	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
23A:							
Colescreek----------	25	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Flooding	0.40	Depth to saturated zone	0.47
		Too clayey	0.50				
24B:							
Jackland-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Mirerock-----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Redbrush-----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
24C:							
Jackland-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Hard to compact	1.00
Mirerock-----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
Redbrush-----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
25C:							
Littlejoe----------	40	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	0.84
Penhook------------	35	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Hard to compact	1.00
						Slope	0.63
Goblintown----------	15	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Depth to bedrock	1.00
		Slope	0.63			Slope	0.63

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D:							
Littlejoe-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Penhook-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Goblintown----------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
26C:							
Littlejoe-----------	40	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	0.84
Strawfield----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
Penhook-------------	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Hard to compact	1.00
						Slope	0.63
26D:							
Littlejoe-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Strawfield----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Penhook-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
27B:							
Minnieville---------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
27C:							
Minnieville---------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
27D:							
Minnieville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
27E:							
Minnieville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
28C:							
Minnieville----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
Orenda--------------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
Redbrush------------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
28D:							
Minnieville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Orenda--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Redbrush------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
29C:							
Minnieville----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Very limited		Very limited		Somewhat limited	
		Depth to bedrock	1.00	Seepage	1.00	Slope	0.63
		Seepage, bottom layer	1.00	Slope	0.63	Seepage	0.50
		Slope	0.63	Depth to bedrock	0.01	Depth to bedrock	0.01
30D:							
Myersville----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Depth to bedrock	0.01	Depth to bedrock	0.01

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31E:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Depth to bedrock	0.01	Depth to bedrock	0.01
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
32F:							
Myersville----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Depth to bedrock	0.01	Depth to bedrock	0.01
Walnut--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
33E:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
33F:							
Peaks---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Ashe----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
33F:							
Edneyville----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
34F:							
Siloam--------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Bluemount-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
35C:							
Thurmont------------	55	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.63
		Seepage, bottom layer	1.00	Slope	0.63	Too clayey	0.50
		Slope	0.63				
Urban land----------	20	Not rated		Not rated		Not rated	
Wintergreen---------	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
36B:							
Thurmont------------	65	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00				
		Too clayey	0.50				
Wintergreen---------	20	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
36C:							
Thurmont------------	65	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.63
		Seepage, bottom layer	1.00	Slope	0.63	Too clayey	0.50
		Slope	0.63				
Wintergreen---------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
36D:							
Thurmont------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00				

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
36D:							
Wintergreen	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
37E:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.94
		Seepage, bottom layer	1.00	Depth to bedrock	0.94	Seepage	0.50
37F:							
Trimont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Porters	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.94
		Seepage, bottom layer	1.00	Depth to bedrock	0.94	Seepage	0.50
38C:							
Watauga	60	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.50
		Slope	0.63				
Brownwood	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.50
		Slope	0.63				
38D:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
38E:							
Watauga	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Brownwood	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39B:							
Wintergreen	95	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
39C:							
Wintergreen	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
39D:							
Wintergreen	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
40C:							
Woolwine	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
Fairview	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
Westfield	15	Very limited		Very limited		Somewhat limited	
		Depth to bedrock	1.00	Seepage	1.00	Slope	0.63
		Seepage, bottom layer	1.00	Slope	0.63	Depth to bedrock	0.61
		Slope	0.63	Depth to bedrock	0.61	Too clayey	0.50
40D:							
Woolwine	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Fairview	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Westfield	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.61
		Seepage, bottom layer	1.00	Depth to bedrock	0.61	Too clayey	0.50
40E:							
Woolwine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Fairview	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
40E:							
Westfield-----------	10	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.61
		Seepage, bottom layer	1.00	Depth to bedrock	0.61	Too clayey	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1C:					
Ashe	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Edneyville	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Peaks	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
2D:					
Ashe	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Peaks	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Edneyville	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
3D:					
Bluemount	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Redbrush	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Spriggs	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4E:					
Bluemount	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Spriggs	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
5C:					
Bluemount-----------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spriggs-------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Redbrush------------	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
6C:					
Brownwood-----------	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Chandler------------	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
6D:					
Brownwood-----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chandler------------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
6E:					
Brownwood-----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chandler------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
6F:					
Brownwood-----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chandler------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
7B:					
Clifford------------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7C:					
Clifford------------	95	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
7D:					
Clifford------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8E:					
Clifford------------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hickoryknob---------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9C:					
Clifford------------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
10B:					
Colescreek----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
Delanco-------------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.66
11A:					
Comus---------------	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
Maggodee------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Elsinboro-----------	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
12C:					
Cowee---------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cliffield-----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Evard---------------	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
12D:					
Cowee---------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
12D:					
Cliffield-----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Evard---------------	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
12E:					
Cowee---------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cliffield-----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Evard---------------	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
13D:					
Cullasaja-----------	55	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Tuckasegee----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
13E:					
Cullasaja-----------	55	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Tuckasegee----------	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
14C:					
Cullasaja-----------	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Tuckasegee----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Dellwood------------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.10
15E:					
Drapermill----------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
16C:					
Edneytown-----------	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sauratown-----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
16D:					
Edneytown-----------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sauratown-----------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
16E:					
Edneytown-----------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sauratown-----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
16F:					
Edneytown-----------	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sauratown-----------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
17B:					
Elsinboro-----------	70	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Colescreek----------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
18E:					
Goblintown----------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Drapermill----------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Penhook-------------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
19C:					
Hayesville----------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
19D:					
Hayesville----------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
20E:					
Hayesville----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
21F:					
Hickoryknob---------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rhodhiss------------	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
22C:					
Hickoryknob---------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rhodhiss------------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Stott Knob----------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
22D:					
Hickoryknob---------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rhodhiss------------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Stott Knob----------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
22E:					
Hickoryknob---------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rhodhiss------------	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
22E:					
Stott Knob----------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
23A:					
Iotla---------------	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Maggodee------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Colescreek----------	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
24B:					
Jackland------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mirerock------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Redbrush------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24C:					
Jackland------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mirerock------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Redbrush------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25C:					
Littlejoe-----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Penhook-------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Goblintown----------	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
25D:					
Littlejoe-----------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Penhook-------------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Goblintown----------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
26C:					
Littlejoe-----------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Strawfield----------	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Penhook-------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
26D:					
Littlejoe-----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Strawfield----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Penhook-------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27B:					
Minnieville---------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
27C:					
Minnieville---------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
27D:					
Minnieville---------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27E:					
Minnieville---------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
28C:					
Minnieville---------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Orenda--------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Redbrush------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
28D:					
Minnieville---------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Orenda--------------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Redbrush------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29C:					
Minnieville---------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
30C:					
Myersville----------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
30D:					
Myersville----------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
31E:					
Myersville----------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Walnut--------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32F:					
Myersville----------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Walnut--------------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
33E:					
Peaks----------------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ashe-----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Edneyville-----------	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
33F:					
Peaks----------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ashe-----------------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Edneyville-----------	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
34F:					
Siloam---------------	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Bluemount------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
35C:					
Thurmont-------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land-----------	20	Not rated		Not rated	
Wintergreen----------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
36B:					
Thurmont-------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wintergreen----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
36C:					
Thurmont-------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
36C:					
Wintergreen----------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
36D:					
Thurmont------------	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Wintergreen----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
37E:					
Trimont-------------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Porters-------------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
37F:					
Trimont-------------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Porters-------------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
38C:					
Watauga-------------	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Brownwood-----------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
38D:					
Watauga-------------	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Brownwood-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
38E:					
Watauga-------------	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Brownwood-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
39B:					
Wintergreen----------	95	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
39C:					
Wintergreen----------	95	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
39D:					
Wintergreen----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
40C:					
Woolwine------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fairview------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Westfield-----------	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
40D:					
Woolwine------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fairview------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Westfield-----------	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
40E:					
Woolwine------------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fairview------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Westfield-----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water---------------	100	Not rated		Not rated	

Table 14.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe----------------	40	Poor		Poor		Fair	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.04
		Depth to bedrock	0.16			Depth to bedrock	0.16
		Too acid	0.50			Slope	0.37
Edneyville----------	30	Fair		Good		Fair	
		Too acid	0.54			Slope	0.37
						Rock fragments	0.68
						Too acid	0.98
Peaks---------------	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Organic matter content low	0.12	Cobble content	0.23	Slope	0.37
						Depth to bedrock	0.84
		Too acid	0.54				
2D:							
Ashe----------------	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.16	Slope	0.50	Rock fragments	0.04
		Too acid	0.50			Depth to bedrock	0.16
Peaks---------------	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Cobble content	0.23	Rock fragments	0.00
				Slope	0.50	Depth to bedrock	0.84
		Too acid	0.54				
Edneyville----------	20	Fair		Fair		Poor	
		Too acid	0.54	Slope	0.50	Slope	0.00
						Rock fragments	0.68
						Too acid	0.98
3D:							
Bluemount-----------	35	Fair		Poor		Poor	
		Depth to bedrock	0.10	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Rock fragments	0.00
				Shrink-swell	0.87	Depth to bedrock	0.10
		Droughty	0.27				
Redbrush------------	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12	Depth to bedrock	0.54
		Droughty	0.13				
Spriggs-------------	15	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Rock fragments	0.04
		Too acid	0.54	Shrink-swell	0.87	Too acid	0.98
		Depth to bedrock	0.99				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
4E:							
Bluemount-----------	50	Fair		Poor		Poor	
		Depth to bedrock	0.10	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.27	Shrink-swell	0.87	Depth to bedrock	0.10
Spriggs-------------	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.54	Depth to bedrock	0.00	Rock fragments	0.04
		Depth to bedrock	0.99	Shrink-swell	0.87	Too acid	0.98
5C:							
Bluemount-----------	55	Fair		Poor		Poor	
		Depth to bedrock	0.10	Depth to bedrock	0.00	Rock fragments	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Depth to bedrock	0.10
		Droughty	0.27	Cobble content	0.89	Slope	0.37
Spriggs-------------	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.04
		Too acid	0.54	Shrink-swell	0.87	Slope	0.37
		Depth to bedrock	0.99			Too acid	0.98
Redbrush------------	15	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Slope	0.37
		Droughty	0.13	Shrink-swell	0.12	Depth to bedrock	0.54
6C:							
Brownwood-----------	50	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.25
		Droughty	0.43	Cobble content	0.99	Slope	0.37
		Too acid	0.50			Too acid	0.88
Chandler------------	40	Fair		Good		Fair	
		Organic matter content low	0.12			Slope	0.37
		Too acid	0.50			Hard to reclaim (rock fragments)	0.82
						Too acid	0.88
6D:							
Brownwood-----------	60	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.43	Slope	0.50	Rock fragments	0.25
		Too acid	0.50	Cobble content	0.99	Too acid	0.88
Chandler------------	30	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
		Too acid	0.50			Hard to reclaim (rock fragments)	0.82
						Too acid	0.88

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
6E:							
Brownwood	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Rock fragments	0.25
		Droughty	0.43	Cobble content	0.99	Too acid	0.88
		Too acid	0.50				
Chandler	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Hard to reclaim (rock fragments)	0.82
		Too acid	0.50				
						Too acid	0.88
6F:							
Brownwood	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Rock fragments	0.25
		Droughty	0.43	Cobble content	0.99	Too acid	0.88
		Too acid	0.50				
Chandler	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Hard to reclaim (rock fragments)	0.82
		Too acid	0.50				
						Too acid	0.88
7B:							
Clifford	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.10	Too acid	0.98
		Too acid	0.54				
7C:							
Clifford	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.10	Slope	0.37
						Too acid	0.98
		Too acid	0.54				
7D:							
Clifford	90	Fair		Fair		Poor	
		Organic matter content low	0.12	Low strength	0.10	Slope	0.00
				Slope	0.50	Too acid	0.98
		Too acid	0.54				
8E:							
Clifford	75	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Low strength	0.10	Too acid	0.98
		Too acid	0.54				
Hickoryknob	15	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Slope	0.00
		Depth to bedrock	0.05	Depth to bedrock	0.00	Depth to bedrock	0.05
		Organic matter content low	0.12			Rock fragments	0.34

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
9C:							
Clifford	75	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.10	Slope	0.37
		Too acid	0.54			Too acid	0.98
Urban land	20	Not rated		Not rated		Not rated	
10B:							
Colescreek	50	Fair		Fair		Fair	
		Too clayey	0.68	Low strength	0.22	Too clayey	0.49
		Organic matter content low	0.88	Wetness depth	0.89	Rock fragments	0.82
		Too acid	0.97			Wetness depth	0.89
Delanco	30	Poor		Fair		Fair	
		Organic matter content low	0.00	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.32	Shrink-swell	0.99	Hard to reclaim (rock fragments)	0.76
						Too acid	0.88
11A:							
Comus	45	Fair		Good		Fair	
		Too acid	0.54			Too acid	0.98
		Water erosion	0.90				
Maggodee	20	Fair		Fair		Fair	
		Too acid	0.54	Wetness depth	0.14	Wetness depth	0.14
		Water erosion	0.90			Too acid	0.98
Elsinboro	20	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.50				
12C:							
Cowee	40	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
		Droughty	0.50			Depth to bedrock	0.54
		Too acid	0.50			Too acid	0.76
Cliffield	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.00	Cobble content	0.12	Depth to bedrock	0.05
		Depth to bedrock	0.05			Slope	0.37
Evard	25	Fair		Good		Fair	
		Organic matter content low	0.12			Rock fragments	0.24
		Too acid	0.54			Slope	0.37
						Hard to reclaim (rock fragments)	0.92
12D:							
Cowee	40	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.50	Slope	0.50	Depth to bedrock	0.54
		Too acid	0.50			Too acid	0.76

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
12D:							
Cliffield-----------	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Cobble content	0.00	Cobble content	0.12	Rock fragments	0.00
		Depth to bedrock	0.05	Slope	0.50	Depth to bedrock	0.05
Evard---------------	25	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
						Rock fragments	0.24
		Too acid	0.54			Hard to reclaim (rock fragments)	0.92
12E:							
Cowee---------------	40	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Depth to bedrock	0.54
		Droughty	0.50			Too acid	0.76
		Too acid	0.50				
Cliffield-----------	25	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Cobble content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.05	Cobble content	0.12	Depth to bedrock	0.05
Evard---------------	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.24
		Too acid	0.54			Hard to reclaim (rock fragments)	0.92
13D:							
Cullasaja-----------	55	Fair		Fair		Poor	
		Too acid	0.54	Cobble content	0.13	Slope	0.00
		Cobble content	0.90	Slope	0.50	Rock fragments	0.00
		Droughty	0.94			Hard to reclaim (rock fragments)	0.00
Tuckasegee----------	30	Fair		Fair		Poor	
		Too acid	0.54	Slope	0.50	Slope	0.00
				Cobble content	0.86	Rock fragments	0.11
						Hard to reclaim (rock fragments)	0.41
13E:							
Cullasaja-----------	55	Fair		Poor		Poor	
		Too acid	0.54	Slope	0.00	Slope	0.00
		Cobble content	0.90	Cobble content	0.13	Rock fragments	0.00
		Droughty	0.94			Hard to reclaim (rock fragments)	0.00
Tuckasegee----------	30	Fair		Poor		Poor	
		Too acid	0.54	Slope	0.00	Slope	0.00
				Cobble content	0.86	Rock fragments	0.11
						Hard to reclaim (rock fragments)	0.41

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
14C:							
Cullasaja-----------	40	Fair Too acid Cobble content Droughty	 0.54 0.90 0.94	Fair Cobble content	 0.13	Poor Rock fragments Hard to reclaim (rock fragments) Slope	 0.00 0.00 0.84
Tuckasegee----------	25	Fair Too acid	 0.54	Fair Cobble content	 0.86	Fair Rock fragments Hard to reclaim (rock fragments) Slope	 0.11 0.41 0.84
Dellwood------------	20	Poor Droughty Too sandy Organic matter content low	 0.00 0.01 0.50	Fair Cobble content Wetness depth	 0.18 0.53	Poor Rock fragments Hard to reclaim (rock fragments) Too sandy	 0.00 0.00 0.01
15E:							
Drapermill----------	85	Fair Organic matter content low Too acid Droughty	 0.12 0.50 0.88	Poor Slope Depth to bedrock	 0.00 0.00	Poor Slope Rock fragments Too acid	 0.00 0.12 0.50
16C:							
Edneytown-----------	65	Fair Organic matter content low Too acid	 0.12 0.32	Good		Fair Slope Rock fragments Too acid	 0.37 0.88 0.88
Sauratown-----------	25	Fair Droughty Organic matter content low Depth to bedrock	 0.03 0.12 0.21	Poor Depth to bedrock	 0.00	Fair Depth to bedrock Rock fragments Slope	 0.21 0.32 0.37
16D:							
Edneytown-----------	70	Fair Organic matter content low Too acid	 0.12 0.32	Fair Slope	 0.50	Poor Slope Rock fragments Too acid	 0.00 0.88 0.88
Sauratown-----------	25	Fair Droughty Organic matter content low Depth to bedrock	 0.03 0.12 0.21	Poor Depth to bedrock Slope	 0.00 0.50	Poor Slope Depth to bedrock Rock fragments	 0.00 0.21 0.32
16E:							
Edneytown-----------	65	Fair Organic matter content low Too acid	 0.12 0.32	Poor Slope	 0.00	Poor Slope Rock fragments Too acid	 0.00 0.88 0.88
Sauratown-----------	25	Fair Droughty Organic matter content low Depth to bedrock	 0.03 0.12 0.21	Poor Slope Depth to bedrock	 0.00 0.00	Poor Slope Depth to bedrock Rock fragments	 0.00 0.21 0.32

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16F:							
Edneytown-----------	65	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.88
		Too acid	0.32			Too acid	0.88
Sauratown-----------	25	Fair		Poor		Poor	
		Droughty	0.03	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.21
						Rock fragments	0.32
		Depth to bedrock	0.21				
17B:							
Elsinboro-----------	70	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.50				
Colescreek----------	20	Fair		Fair		Fair	
		Too clayey	0.68	Low strength	0.22	Too clayey	0.49
		Organic matter content low	0.88	Wetness depth	0.89	Rock fragments	0.82
						Wetness depth	0.89
		Too acid	0.97				
18E:							
Goblintown----------	45	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
				Low strength	0.00	Depth to bedrock	0.93
		Too acid	0.54				
Drapermill----------	20	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Rock fragments	0.12
		Too acid	0.50			Too acid	0.50
		Droughty	0.88				
Penhook-------------	10	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.98	Too acid	0.50
19C:							
Hayesville----------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.37
						Too acid	0.76
		Too acid	0.20				
19D:							
Hayesville----------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
						Too acid	0.76
		Too acid	0.20				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
20E:							
Hayesville----------	85	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
		Too acid	0.20			Too acid	0.76
21F:							
Hickoryknob---------	75	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Slope	0.00
		Depth to bedrock	0.05	Depth to bedrock	0.00	Depth to bedrock	0.05
		Organic matter content low	0.12			Rock fragments	0.34
Rhodhiss------------	15	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.95
		Too acid	0.54			Hard to reclaim (rock fragments)	0.98
22C:							
Hickoryknob---------	35	Fair		Poor		Fair	
		Droughty	0.04	Depth to bedrock	0.00	Depth to bedrock	0.05
		Depth to bedrock	0.05			Rock fragments	0.34
		Organic matter content low	0.12			Slope	0.37
Rhodhiss------------	30	Fair		Good		Fair	
		Organic matter content low	0.12			Slope	0.37
						Rock fragments	0.95
		Too acid	0.54			Hard to reclaim (rock fragments)	0.98
Stott Knob----------	25	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
						Rock fragments	0.95
		Too acid	0.54			Too acid	0.98
		Droughty	0.91				
22D:							
Hickoryknob---------	35	Fair		Poor		Poor	
		Droughty	0.04	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.05	Slope	0.50	Depth to bedrock	0.05
		Organic matter content low	0.12			Rock fragments	0.34
Rhodhiss------------	30	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
						Rock fragments	0.95
		Too acid	0.54			Hard to reclaim (rock fragments)	0.98
Stott Knob----------	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Rock fragments	0.95
		Too acid	0.54			Too acid	0.98
		Droughty	0.91				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
22E:							
Hickoryknob	45	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Slope	0.00
		Depth to bedrock	0.05	Depth to bedrock	0.00	Depth to bedrock	0.05
		Organic matter content low	0.12			Rock fragments	0.34
Rhodhiss	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.95
		Too acid	0.54			Hard to reclaim (rock fragments)	0.98
Stott Knob	20	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Rock fragments	0.95
		Too acid	0.54			Too acid	0.98
		Droughty	0.91				
23A:							
Iotla	30	Fair		Fair		Poor	
		Organic matter content low	0.50	Wetness depth	0.14	Hard to reclaim (rock fragments)	0.00
		Too acid	0.74			Wetness depth	0.14
Maggodee	25	Fair		Fair		Fair	
		Too acid	0.54	Wetness depth	0.14	Wetness depth	0.14
		Water erosion	0.90			Too acid	0.98
Colescreek	25	Fair		Fair		Fair	
		Too clayey	0.68	Low strength	0.22	Too clayey	0.49
		Organic matter content low	0.88	Wetness depth	0.89	Rock fragments	0.82
						Wetness depth	0.89
		Too acid	0.97				
24B:							
Jackland	35	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.00	Rock fragments	0.82
		Water erosion	0.90				
Mirerock	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.76
				Shrink-swell	0.56	Depth to bedrock	0.90
		Droughty	0.89				
Redbrush	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Depth to bedrock	0.54
				Shrink-swell	0.12	Rock fragments	0.82
		Droughty	0.13				
24C:							
Jackland	35	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.00	Slope	0.37
		Water erosion	0.90				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
24C:							
Mirerock	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Shrink-swell	0.56	Rock fragments	0.76
		Droughty	0.89				
Redbrush	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Slope	0.37
				Shrink-swell	0.12	Depth to bedrock	0.54
		Droughty	0.13				
25C:							
Littlejoe	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.16	Slope	0.37
				Shrink-swell	0.87	Too acid	0.88
		Too acid	0.50				
Penhook	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Shrink-swell	0.98	Slope	0.37
		Organic matter content low	0.12			Too acid	0.50
Goblintown	15	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Slope	0.37
				Shrink-swell	0.87	Depth to bedrock	0.93
		Too acid	0.54				
25D:							
Littlejoe	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.16	Too clayey	0.00
				Slope	0.50	Too acid	0.88
		Too acid	0.50				
Penhook	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.08	Slope	0.50	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.98	Too acid	0.50
Goblintown	15	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Slope	0.50	Depth to bedrock	0.93
		Too acid	0.54				
26C:							
Littlejoe	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.16	Slope	0.37
				Shrink-swell	0.87	Too acid	0.88
		Too acid	0.50				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
26C:							
Strawfield----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.03	Low strength	0.00	Depth to bedrock	0.03
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.37
Penhook-------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Shrink-swell	0.98	Slope	0.37
		Organic matter content low	0.12			Too acid	0.50
26D:							
Littlejoe-----------	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.16	Too clayey	0.00
				Slope	0.50	Too acid	0.88
		Too acid	0.50				
Strawfield----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.03	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Slope	0.50	Depth to bedrock	0.03
Penhook-------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.08	Slope	0.50	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.98	Too acid	0.50
27B:							
Minnieville---------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87		
		Too acid	0.74				
27C:							
Minnieville---------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.37
		Too acid	0.74				
27D:							
Minnieville---------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
				Shrink-swell	0.87		
		Too acid	0.74				
27E:							
Minnieville---------	90	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
				Shrink-swell	0.87		
		Too acid	0.74				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
28C:							
Minnieville----------	45	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.37
		Too acid	0.74				
Orenda--------------	25	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Slope	0.37
						Rock fragments	0.68
		Too acid	0.84				
Redbrush------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Slope	0.37
				Shrink-swell	0.12	Depth to bedrock	0.54
		Droughty	0.13				
28D:							
Minnieville----------	45	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
				Shrink-swell	0.87		
		Too acid	0.74				
Orenda--------------	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.00
						Rock fragments	0.68
		Too acid	0.84				
Redbrush------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12	Depth to bedrock	0.54
		Droughty	0.13				
29C:							
Minnieville----------	75	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.37
		Too acid	0.74				
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.99	Slope	0.37
						Rock fragments	0.83
		Too acid	0.74				
30D:							
Myersville----------	90	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
				Depth to bedrock	0.99	Rock fragments	0.83
		Too acid	0.74				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
31E:							
Myersville----------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.99	Rock fragments	0.83
		Too acid	0.74				
Walnut--------------	35	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.16
		Depth to bedrock	0.16				
32F:							
Myersville----------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.99	Rock fragments	0.83
		Too acid	0.74				
Walnut--------------	35	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.16
		Depth to bedrock	0.16				
33E:							
Peaks---------------	40	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
				Cobble content	0.23	Depth to bedrock	0.84
		Too acid	0.54				
Ashe----------------	35	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Depth to bedrock	0.16	Depth to bedrock	0.00	Rock fragments	0.04
		Too acid	0.50			Depth to bedrock	0.16
Edneyville----------	20	Fair		Poor		Poor	
		Too acid	0.54	Slope	0.00	Slope	0.00
						Rock fragments	0.68
						Too acid	0.98
33F:							
Peaks---------------	40	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
				Cobble content	0.23	Depth to bedrock	0.84
		Too acid	0.54				
Ashe----------------	35	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Depth to bedrock	0.16	Depth to bedrock	0.00	Rock fragments	0.04
		Too acid	0.50			Depth to bedrock	0.16
Edneyville----------	20	Fair		Poor		Poor	
		Too acid	0.54	Slope	0.00	Slope	0.00
						Rock fragments	0.68
						Too acid	0.98

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
34F:							
Siloam	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Organic matter content low	0.12	Low strength	0.00	Rock fragments	0.76
Bluemount	20	Fair		Poor		Poor	
		Depth to bedrock	0.10	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
				Shrink-swell	0.87	Depth to bedrock	0.10
		Droughty	0.27				
35C:							
Thurmont	55	Fair		Good		Fair	
		Organic matter content low	0.12			Too clayey	0.29
						Slope	0.37
		Too acid	0.32			Rock fragments	0.68
		Too clayey	0.50				
Urban land	20	Not rated		Not rated		Not rated	
Wintergreen	15	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
				Shrink-swell	0.87	Slope	0.37
		Too clayey	0.18			Rock fragments	0.68
		Too acid	0.50				
36B:							
Thurmont	65	Fair		Good		Fair	
		Organic matter content low	0.12			Too clayey	0.29
						Rock fragments	0.68
		Too acid	0.32			Too acid	0.88
		Too clayey	0.50				
Wintergreen	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
				Shrink-swell	0.87	Rock fragments	0.68
		Too clayey	0.18			Too acid	0.88
		Too acid	0.50				
36C:							
Thurmont	65	Fair		Good		Fair	
		Organic matter content low	0.12			Too clayey	0.29
						Slope	0.37
		Too acid	0.32			Rock fragments	0.68
		Too clayey	0.50				
Wintergreen	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
				Shrink-swell	0.87	Slope	0.37
		Too clayey	0.18			Rock fragments	0.68
		Too acid	0.50				
36D:							
Thurmont	65	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
						Too clayey	0.29
		Too acid	0.32			Rock fragments	0.68
		Too clayey	0.50				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
36D:							
Wintergreen----------	20	Fair		Poor		Poor	
		Organic matter content low	0.12	Low strength	0.00	Slope	0.00
		Too clayey	0.18	Slope	0.50	Too clayey	0.10
		Too acid	0.50	Shrink-swell	0.87	Rock fragments	0.68
37E:							
Trimont--------------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.54			Rock fragments	0.59
						Too acid	0.98
Porters--------------	35	Fair		Poor		Poor	
		Organic matter content low	0.50	Slope	0.00	Slope	0.00
		Too acid	0.54	Depth to bedrock	0.07	Hard to reclaim (rock fragments)	0.82
						Rock fragments	0.88
37F:							
Trimont--------------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.54			Rock fragments	0.59
						Too acid	0.98
Porters--------------	35	Fair		Poor		Poor	
		Organic matter content low	0.50	Slope	0.00	Slope	0.00
		Too acid	0.54	Depth to bedrock	0.07	Hard to reclaim (rock fragments)	0.82
						Rock fragments	0.88
38C:							
Watauga--------------	60	Fair		Good		Fair	
		Organic matter content low	0.02			Slope	0.37
		Too acid	0.54			Hard to reclaim (rock fragments)	0.92
						Rock fragments	0.98
Brownwood------------	35	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.25
		Droughty	0.43	Cobble content	0.99	Slope	0.37
		Too acid	0.50			Too acid	0.88
38D:							
Watauga--------------	60	Fair		Fair		Poor	
		Organic matter content low	0.02	Slope	0.50	Slope	0.00
		Too acid	0.54			Hard to reclaim (rock fragments)	0.92
						Rock fragments	0.98
Brownwood------------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.43	Slope	0.50	Rock fragments	0.25
		Too acid	0.50	Cobble content	0.99	Too acid	0.88

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
38E:							
Watauga	60	Fair		Poor		Poor	
		Organic matter content low	0.02	Slope	0.00	Slope	0.00
		Too acid	0.54			Hard to reclaim (rock fragments)	0.92
						Rock fragments	0.98
Brownwood	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Droughty	0.43	Depth to bedrock	0.00	Rock fragments	0.25
		Too acid	0.50	Cobble content	0.99	Too acid	0.88
39B:							
Wintergreen	95	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
		Too clayey	0.18	Shrink-swell	0.87	Rock fragments	0.68
		Too acid	0.50			Too acid	0.88
39C:							
Wintergreen	95	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
		Too clayey	0.18	Shrink-swell	0.87	Slope	0.37
		Too acid	0.50			Rock fragments	0.68
39D:							
Wintergreen	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Low strength	0.00	Slope	0.00
		Too clayey	0.18	Slope	0.50	Too clayey	0.10
		Too acid	0.50	Shrink-swell	0.87	Rock fragments	0.68
40C:							
Woolwine	50	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.10	Depth to bedrock	0.35
		Droughty	0.16			Slope	0.37
Fairview	30	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.02			Slope	0.37
		Too acid	0.54			Rock fragments	0.92
Westfield	15	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.39	Slope	0.37
		Too acid	0.54			Rock fragments	0.82
40D:							
Woolwine	55	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
		Droughty	0.16	Slope	0.50	Depth to bedrock	0.35

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
40D:							
Fairview	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Rock fragments	0.92
		Too acid	0.54				
Westfield	15	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.39	Too clayey	0.00
				Slope	0.50	Rock fragments	0.82
		Too acid	0.54				
40E:							
Woolwine	45	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
				Low strength	0.10	Depth to bedrock	0.35
		Droughty	0.16				
Fairview	25	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Rock fragments	0.92
		Too acid	0.54				
Westfield	10	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
				Depth to bedrock	0.39	Rock fragments	0.82
		Too acid	0.54				
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Ashe	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.96				
Edneyville	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00
		Slope	1.00				
Peaks	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.74	Depth to water	1.00
		Slope	1.00	Large stones content	0.19		
		Depth to bedrock	0.74				
2D:							
Ashe	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.96				
Peaks	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.74	Depth to water	1.00
		Slope	1.00	Large stones content	0.19		
		Depth to bedrock	0.74				
Edneyville	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00
		Slope	1.00				
3D:							
Bluemount	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to bedrock	0.98	Piping	0.53		
		Seepage	0.70	Large stones content	0.18		
Redbrush	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.56	Piping	0.01		
		Seepage	0.01				
Spriggs	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.06				
4E:							
Bluemount	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to bedrock	0.98	Piping	0.53		
		Seepage	0.70	Large stones content	0.18		

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
4E:							
Spriggs	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.06				
5C:							
Bluemount	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to bedrock	0.98	Piping	0.53		
		Seepage	0.70	Large stones content	0.18		
Spriggs	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.06				
Redbrush	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.56	Piping	0.01		
		Seepage	0.01				
6C:							
Brownwood	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
Chandler	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
6D:							
Brownwood	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
Chandler	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
6E:							
Brownwood	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
Chandler	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
6F:							
Brownwood	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
6F:							
Chandler------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
7B:							
Clifford------------	95	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.38	Depth to water	1.00
		Slope	0.32				
7C:							
Clifford------------	95	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.38	Depth to water	1.00
		Seepage	0.70				
7D:							
Clifford------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.38	Depth to water	1.00
		Seepage	0.70				
8E:							
Clifford------------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.38	Depth to water	1.00
		Seepage	0.70				
Hickoryknob---------	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Depth to bedrock	0.66				
9C:							
Clifford------------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.38	Depth to water	1.00
		Seepage	0.70				
Urban land----------	20	Not rated		Not rated		Not rated	
10B:							
Colescreek----------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
		Slope	0.32	Seepage	0.58	Depth to saturated zone	0.06
Delanco-------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.99	Cutbanks cave	1.00
		Slope	0.32	Seepage	0.85	Slow refill	0.28
						Depth to saturated zone	0.01
11A:							
Comus---------------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
Maggodee------------	20	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
Elsinboro-----------	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
				Seepage	0.04		

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
12C:							
Cowee	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.33				
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Depth to water	1.00
		Depth to bedrock	0.99	Thin layer	0.99		
		Seepage	0.70	Seepage	0.35		
Evard	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.70				
12D:							
Cowee	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.33				
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Depth to water	1.00
		Depth to bedrock	0.99	Thin layer	0.99		
		Seepage	0.70	Seepage	0.35		
Evard	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.70				
12E:							
Cowee	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.33				
Cliffield	25	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Depth to water	1.00
		Depth to bedrock	0.99	Thin layer	0.99		
		Seepage		Seepage	0.35		
Evard	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.70				
13D:							
Cullasaja	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Large stones content	0.15	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
Tuckasegee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	1.00				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13E:							
Cullasaja-----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Large stones content	0.15	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
Tuckasegee----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	1.00				
14C:							
Cullasaja-----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Large stones content	0.15	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
Tuckasegee----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	1.00				
Dellwood------------	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
				Large stones content	0.14	Large stones content	0.14
				Seepage	0.10	Depth to saturated zone	0.01
15E:							
Drapermill----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70	Thin layer	0.70		
		Depth to bedrock	0.69				
16C:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
Sauratown-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Depth to bedrock	0.77	Thin layer	0.95		
		Seepage	0.70				
16D:							
Edneytown-----------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
Sauratown-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Depth to bedrock	0.77	Thin layer	0.95		
		Seepage	0.70				
16E:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
16E:							
Sauratown-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Depth to bedrock	0.77	Thin layer	0.95		
		Seepage	0.70				
16F:							
Edneytown-----------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
Sauratown-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Depth to bedrock	0.77	Thin layer	0.95		
		Seepage	0.70				
17B:							
Elsinboro-----------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.32	Seepage	0.04		
Colescreek----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
		Slope	0.32	Seepage	0.58	Depth to saturated zone	0.06
18E:							
Goblintown----------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.79	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
Drapermill----------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70	Thin layer	0.70		
		Depth to bedrock	0.69				
Penhook-------------	10	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.42	Depth to water	1.00
		Seepage	0.70				
19C:							
Hayesville----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.69	Depth to water	1.00
		Slope	1.00				
19D:							
Hayesville----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.69	Depth to water	1.00
		Slope	1.00				
20E:							
Hayesville----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.69	Depth to water	1.00
		Slope	1.00				
21F:							
Hickoryknob---------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Depth to bedrock	0.66				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21F:							
Rhodhiss	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
22C:							
Hickoryknob	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Depth to bedrock	0.66				
Rhodhiss	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
Stott Knob	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.56		
		Depth to bedrock	0.02				
22D:							
Hickoryknob	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Depth to bedrock	0.66				
Rhodhiss	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
Stott Knob	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.56		
		Depth to bedrock	0.02				
22E:							
Hickoryknob	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Depth to bedrock	0.66				
Rhodhiss	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
Stott Knob	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.56		
		Depth to bedrock	0.02				
23A:							
Iotla	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.32		
Maggodee	25	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
23A:							
Colescreek----------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.58	Depth to saturated zone	0.06
24B:							
Jackland-----------	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.32	Hard to pack	0.61		
Mirerock-----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Thin layer	0.70	Depth to water	1.00
		Depth to bedrock	0.13	Hard to pack	0.31		
		Seepage	0.05				
Redbrush-----------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.56	Thin layer	0.86	Depth to water	1.00
		Slope	0.32	Piping	0.01		
		Seepage	0.01				
24C:							
Jackland-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Hard to pack	0.61		
Mirerock-----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.70	Depth to water	1.00
		Depth to bedrock	0.13	Hard to pack	0.31		
		Seepage	0.05				
Redbrush-----------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.56	Piping	0.01		
		Seepage	0.01				
25C:							
Littlejoe----------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.26	Depth to water	1.00
		Seepage	0.57				
		Depth to bedrock	0.01				
Penhook------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.42	Depth to water	1.00
		Seepage	0.70				
Goblintown----------	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.79	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
25D:							
Littlejoe----------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.26	Depth to water	1.00
		Seepage	0.57				
		Depth to bedrock	0.01				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D:							
Penhook	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.42	Depth to water	1.00
		Seepage	0.70				
Goblintown	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.79	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
26C:							
Littlejoe	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.26	Depth to water	1.00
		Seepage	0.57				
		Depth to bedrock	0.01				
Strawfield	30	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.99				
		Seepage	0.70				
Penhook	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.42	Depth to water	1.00
		Seepage	0.70				
26D:							
Littlejoe	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.26	Depth to water	1.00
		Seepage	0.57				
		Depth to bedrock	0.01				
Strawfield	30	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.99				
		Seepage	0.70				
Penhook	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.42	Depth to water	1.00
		Seepage	0.70				
27B:							
Minnieville	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.22	Depth to water	1.00
		Slope	0.32				
27C:							
Minnieville	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				
27D:							
Minnieville	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				
27E:							
Minnieville	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
28C:							
Minnieville---------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				
Orenda--------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.33	Depth to water	1.00
		Seepage	0.70				
Redbrush------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.56	Piping	0.01		
		Seepage	0.01				
28D:							
Minnieville---------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				
Orenda--------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.33	Depth to water	1.00
		Seepage	0.70				
Redbrush------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.56	Piping	0.01		
		Seepage	0.01				
29C:							
Minnieville---------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.22	Depth to water	1.00
		Seepage	0.70				
Urban land----------	20	Not rated		Not rated		Not rated	
30C:							
Myersville----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.96	Depth to water	1.00
		Slope	1.00	Thin layer	0.01		
		Depth to bedrock	0.01				
30D:							
Myersville----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.96	Depth to water	1.00
		Slope	1.00	Thin layer	0.01		
		Depth to bedrock	0.01				
31E:							
Myersville----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.96	Depth to water	1.00
		Slope	1.00	Thin layer	0.01		
		Depth to bedrock	0.01				
Walnut--------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.42				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32F:							
Myersville----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.96	Depth to water	1.00
		Slope	1.00	Thin layer	0.01		
		Depth to bedrock	0.01				
Walnut--------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.42				
33E:							
Peaks---------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.74	Depth to water	1.00
		Slope	1.00	Large stones content	0.19		
		Depth to bedrock	0.74				
Ashe----------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.96				
Edneyville----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00
		Slope	1.00				
33F:							
Peaks---------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.74	Depth to water	1.00
		Slope	1.00	Large stones content	0.19		
		Depth to bedrock	0.74				
Ashe----------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.96				
Edneyville----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00
		Slope	1.00				
34F:							
Siloam--------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.99	Piping	0.78		
Bluemount-----------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to bedrock	0.98	Piping	0.53		
		Seepage	0.70	Large stones content	0.18		
35C:							
Thurmont------------	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.85	Depth to water	1.00
		Seepage	1.00				
Urban land----------	20	Not rated		Not rated		Not rated	

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35C:							
Wintergreen---------	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.01	Depth to water	1.00
		Seepage	0.70				
36B:							
Thurmont------------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.85	Depth to water	1.00
		Slope	0.32				
Wintergreen---------	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.01	Depth to water	1.00
		Slope	0.32				
36C:							
Thurmont------------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.85	Depth to water	1.00
		Seepage	1.00				
Wintergreen---------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.01	Depth to water	1.00
		Seepage	0.70				
36D:							
Thurmont------------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.85	Depth to water	1.00
		Seepage	1.00				
Wintergreen---------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.01	Depth to water	1.00
		Seepage	0.70				
37E:							
Trimont-------------	45	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Porters-------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.34	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
37F:							
Trimont-------------	45	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Porters-------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.34	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
38C:							
Watauga-------------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38C:							
Brownwood-----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
38D:							
Watauga-------------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
Brownwood-----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
38E:							
Watauga-------------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	1.00				
Brownwood-----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	Depth to water	1.00
		Slope	1.00	Seepage	0.01		
		Depth to bedrock	0.26				
39B:							
Wintergreen---------	95	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.01	Depth to water	1.00
		Slope	0.32				
39C:							
Wintergreen---------	95	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.01	Depth to water	1.00
		Seepage	0.70				
39D:							
Wintergreen---------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.01	Depth to water	1.00
		Seepage	0.70				
40C:							
Woolwine------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70	Piping	0.17		
		Depth to bedrock	0.37				
Fairview------------	30	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
Westfield-----------	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.77	Depth to water	1.00
		Seepage	1.00	Thin layer	0.16		
		Depth to bedrock	0.01				
40D:							
Woolwine------------	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70	Piping	0.17		
		Depth to bedrock	0.37				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40D:							
Fairview------------	25	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
Westfield-----------	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.77	Depth to water	1.00
		Seepage	1.00	Thin layer	0.16		
		Depth to bedrock	0.01				
40E:							
Woolwine------------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70	Piping	0.17		
		Depth to bedrock	0.37				
Fairview------------	25	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
Westfield-----------	10	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.77	Depth to water	1.00
		Seepage	1.00	Thin layer	0.16		
		Depth to bedrock	0.01				
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 16.—Engineering 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	
1C:												
Ashe	0-1	Cobbly sandy loam, gravelly fine sandy loam, gravelly loam	SM, SC-SM	A-1, A-2-4, A-4	0	0-17	59-83	57-82	49-81	21-40	13-25	1-8
	1-25	Loam, sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SC-SM, SM	A-4, A-2-4, A-1	0	0-17	59-83	57-82	50-81	21-39	13-23	1-7
	25-80	Bedrock			---	---	---	---	---	---	---	---
Edneyville	0-6	Cobbly sandy loam, gravelly loam, gravelly fine sandy loam	ML, SM, SC-SM, CL-ML	A-2-4, A-4	0	0-17	59-83	57-82	45-77	31-56	12-25	1-8
	6-29	Loam, fine sandy loam, gravelly sandy loam	ML, CL-ML, SM, SC-SM	A-4	0	0-9	67-100	66-100	54-92	37-67	13-23	1-7
	29-61	Gravelly loamy sand, loam, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	67-100	66-100	56-100	23-49	12-25	1-8
Peaks	0-5	Gravelly fine sandy loam, gravelly loam, cobbly sandy loam	SM, SC-SM, ML, CL-ML	A-2-4, A-4	0	0-18	58-82	56-82	45-76	31-55	11-21	NP-6
	5-34	Very cobbly loam, very gravelly fine sandy loam, very cobbly sandy loam	SC-SM, SM, GC-GM	A-4, A-2-4, A-1, A-2	0	26-46	42-63	40-61	32-57	22-42	12-23	1-7
	34-80	Bedrock			---	---	---	---	---	---	---	---
2D:												
Ashe	0-1	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM	A-1, A-2-4, A-4	0	0-17	59-83	57-82	49-81	21-40	13-25	1-8
	1-25	Cobbly fine sandy loam, gravelly fine sandy loam, loam, sandy loam	SM, SC-SM	A-4, A-2-4, A-1	0	0-17	59-83	57-82	50-81	21-39	13-23	1-7
	25-80	Bedrock			---	---	---	---	---	---	---	---
Peaks	0-5	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM, ML, CL-ML	A-2-4, A-4	0	0-18	58-82	56-82	45-76	31-55	11-21	NP-6
	5-34	Very cobbly sandy loam, very gravelly fine sandy loam, very cobbly loam	SC-SM, SM, GC-GM	A-4, A-2-4, A-1, A-2	0	26-46	42-63	40-61	32-57	22-42	12-23	1-7
	34-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
2D:												
Edneyville------	0-6	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	ML, SM, SC-SM, CL-ML	A-2-4, A-4	0	0-17	59-83	57-82	45-77	31-56	12-25	1-8
	6-29	Loam, fine sandy loam, gravelly sandy loam	CL-ML, SM, SC-SM, ML	A-4	0	0-9	67-100	66-100	54-92	37-67	13-23	1-7
	29-61	Loam, fine sandy loam, gravelly loamy sand	SC-SM, SM	A-2-4, A-4	0	0-9	67-100	66-100	56-100	23-49	12-25	1-8
3D:												
Bluemount-------	0-4	Cobbly fine sandy loam, gravelly loam, gravelly silt loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	10-19	56-80	54-79	46-79	37-68	21-36	1-16
	4-14	Loam, very cobbly clay loam, gravelly clay loam, gravelly silt loam	CL, SC	A-6, A-7-6	0	0-28	42-100	39-100	34-100	29-92	28-44	9-22
	14-24	Loam, very cobbly clay loam, gravelly clay loam, gravelly silt loam	CL, SC	A-6, A-7-6	0	0-64	46-100	44-100	36-98	27-78	28-44	9-22
	24-80	Bedrock			---	---	---	---	---	---	---	---
Redbrush--------	0-5	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Loam, gravelly loam, silt loam	CL, CL-ML, ML	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay, gravelly clay loam, clay loam	CH, CL	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Gravelly fine sandy loam, silt loam, clay	CH, CL	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---
Spriggs---------	0-6	Gravelly loam, cobbly fine sandy loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4, A-6	0	0-17	59-75	57-74	45-72	31-54	21-36	4-16
	6-38	Clay loam, loam, gravelly clay loam	SC, CL	A-7-6, A-6	0	0-17	59-100	57-100	47-99	35-79	28-44	9-22
	38-52	Bedrock			---	---	---	---	---	---	---	---
	52-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
4E:												
Bluemount-------	0-4	Gravelly loam, gravelly silt loam, cobbly fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	10-19	56-80	54-79	46-79	37-68	21-36	1-16
	4-14	Very cobbly clay loam, gravelly clay loam, gravelly silt loam, loam	CL, SC	A-6, A-7-6	0	0-28	42-100	39-100	34-100	29-92	28-44	9-22
	14-24	Gravelly silt loam, loam, very cobbly clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0	0-64	46-100	44-100	36-98	27-78	28-44	9-22
	24-80	Bedrock			---	---	---	---	---	---	---	---
Spriggs---------	0-6	Cobbly fine sandy loam, gravelly loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4, A-6	0	0-17	59-75	57-74	45-72	31-54	21-36	4-16
	6-38	Gravelly clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-17	59-100	57-100	47-99	35-79	28-44	9-22
	38-52	Bedrock			---	---	---	---	---	---	---	---
	52-80	Bedrock			---	---	---	---	---	---	---	---
5C:												
Bluemount-------	0-4	Gravelly loam, gravelly silt loam, cobbly fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	10-19	56-80	54-79	46-79	37-68	21-36	1-16
	4-14	Very cobbly clay loam, gravelly clay loam, gravelly silt loam, loam	SC, CL	A-6, A-7-6	0	0-28	42-100	39-100	34-100	29-92	28-44	9-22
	14-24	Gravelly silt loam, gravelly clay loam, very cobbly clay loam, loam	SC, CL	A-6, A-7-6	0	0-64	46-100	44-100	36-98	27-78	28-44	9-22
	24-80	Bedrock			---	---	---	---	---	---	---	---
Spriggs---------	0-6	Gravelly loam, cobbly fine sandy loam	SC, CL-ML, SC-SM, CL	A-2-4, A-4, A-6	0	0-17	59-75	57-74	45-72	31-54	21-36	4-16
	6-38	Gravelly clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-17	59-100	57-100	47-99	35-79	28-44	9-22
	38-52	Bedrock			---	---	---	---	---	---	---	---
	52-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
5C:												
Redbrush--------	0-5	Loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Gravelly loam, silt loam, loam	CL, CL-ML, ML	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay, gravelly clay loam, clay loam	CH, CL	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Gravelly fine sandy loam, silt loam, clay	CH, CL	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---
6C:												
Brownwood-------	0-6	Fine sandy loam, loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Fine sandy loam, cobbly fine sandy loam, sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
Chandler--------	0-4	Loam, fine sandy loam	ML, CL-ML, SC-SM, SM	A-4	0	0-13	86-100	85-100	69-93	47-68	12-23	1-7
	4-22	Loam, channery fine sandy loam, sandy loam	SM, SC-SM, ML, CL-ML	A-4	0-5	0-20	80-100	79-100	64-93	44-68	12-23	1-7
	22-80	Sandy loam, channery loam, loamy sand, parachannery sandy loam	SM, SC-SM	A-2-4, A-4	0-5	0-20	80-100	79-100	55-82	24-44	12-23	1-7
6D:												
Brownwood-------	0-6	Fine sandy loam, loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Channery loam, cobbly fine sandy loam, fine sandy loam, sandy loam	SM, SC-SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
Chandler--------	0-4	Loam, fine sandy loam	SM, CL-ML, ML, SC-SM	A-4	0	0-13	86-100	85-100	69-93	47-68	12-23	1-7
	4-22	Loam, channery fine sandy loam, sandy loam	CL-ML, SM, ML, SC-SM	A-4	0-5	0-20	80-100	79-100	64-93	44-68	12-23	1-7
	22-80	Sandy loam, channery loam, loamy sand, parachannery sandy loam	SC-SM, SM	A-2-4, A-4	0-5	0-20	80-100	79-100	55-82	24-44	12-23	1-7

Table 16.—Engineering 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	
6E:												
Brownwood-------	0-6	Fine sandy loam, loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Sandy loam, fine sandy loam, cobbly fine sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
Chandler--------	0-4	Fine sandy loam, loam	ML, SC-SM, SM, CL-ML	A-4	0	0-13	86-100	85-100	69-93	47-68	12-23	1-7
	4-22	Loam, channery fine sandy loam, sandy loam	SM, SC-SM, ML, CL-ML	A-4	0-5	0-20	80-100	79-100	64-93	44-68	12-23	1-7
	22-80	Parachannery sandy loam, channery loam, sandy loam, loamy sand	SC-SM, SM	A-2-4, A-4	0-5	0-20	80-100	79-100	55-82	24-44	12-23	1-7
6F:												
Brownwood-------	0-6	Loam, fine sandy loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Sandy loam, fine sandy loam, cobbly fine sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
Chandler--------	0-4	Fine sandy loam, loam	ML, CL-ML, SC-SM, SM	A-4	0	0-13	86-100	85-100	69-93	47-68	12-23	1-7
	4-22	Loam, channery fine sandy loam, sandy loam	CL-ML, SM, SC-SM, ML	A-4	0-5	0-20	80-100	79-100	64-93	44-68	12-23	1-7
	22-80	Sandy loam, loamy sand, parachannery sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0-5	0-20	80-100	79-100	55-82	24-44	12-23	1-7
7B:												
Clifford--------	0-7	Loam, fine sandy loam	SM, SC-SM	A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	7-54	Clay, clay loam	CL	A-6, A-7-6	0	0-9	81-100	80-100	72-100	60-100	31-45	13-31
	54-62	Loam, sandy clay loam, clay loam	SC, SM, SC-SM, CL-ML, ML, CL	A-6, A-4	0	0-9	81-100	80-100	57-100	40-80	13-34	2-14
	62-82	Fine sandy loam, loam, clay loam	SC, ML, CL, SC-SM, SM, CL-ML	A-4, A-6	0	0-9	81-100	80-100	67-100	37-76	13-34	2-14

Table 16.—Engineering 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	
7C:												
Clifford--------	0-7	Loam, fine sandy loam	SC-SM, SM	A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	7-54	Clay, clay loam	CL	A-6, A-7-6	0	0-9	81-100	80-100	72-100	60-100	31-45	13-31
	54-62	Loam, sandy clay loam, clay loam	SC-SM, CL, ML, SC, SM, CL-ML	A-6, A-4	0	0-9	81-100	80-100	57-100	40-80	13-34	2-14
	62-82	Fine sandy loam, loam, clay loam	SM, SC-SM, CL, ML, CL-ML, SC	A-4, A-6	0	0-9	81-100	80-100	67-100	37-76	13-34	2-14
7D:												
Clifford--------	0-7	Loam, fine sandy loam	SM, SC-SM	A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	7-54	Clay, clay loam	CL	A-6, A-7-6	0	0-9	81-100	80-100	72-100	60-100	31-45	13-31
	54-62	Loam, sandy clay loam, clay loam	SM, SC-SM, CL-ML, CL, SC, ML	A-6, A-4	0	0-9	81-100	80-100	57-100	40-80	13-34	2-14
	62-82	Fine sandy loam, loam, clay loam	CL-ML, ML, CL, SC, SC-SM, SM	A-4, A-6	0	0-9	81-100	80-100	67-100	37-76	13-34	2-14
8E:												
Clifford--------	0-7	Loam, fine sandy loam	SC-SM, SM	A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	7-54	Clay, clay loam	CL	A-6, A-7-6	0	0-9	81-100	80-100	72-100	60-100	31-45	13-31
	54-62	Loam, sandy clay loam, clay loam	SM, SC-SM, CL-ML, ML, SC, CL	A-6, A-4	0	0-9	81-100	80-100	57-100	40-80	13-34	2-14
	62-82	Fine sandy loam, loam, clay loam	SC, CL-ML, SM, SC-SM, ML, CL	A-4, A-6	0	0-9	81-100	80-100	67-100	37-76	13-34	2-14
Hickoryknob-----	0-4	Fine sandy loam, loam	ML, CL-ML, SC-SM, SM	A-4	0	0-13	86-100	86-100	70-94	48-68	14-25	2-8
	4-23	Channery loam, channery clay loam, clay loam	CL	A-4, A-6	0	0-37	74-100	73-100	60-99	46-79	23-39	7-16
	23-36	Bedrock			---	---	---	---	---	---	---	---
	36-80	Bedrock			---	---	---	---	---	---	---	---
9C:												
Clifford--------	0-7	Loam, fine sandy loam	SM, SC-SM	A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	7-54	Clay, clay loam	CL	A-6, A-7-6	0	0-9	81-100	80-100	72-100	60-100	31-45	13-31
	54-62	Loam, sandy clay loam, clay loam	SM, SC-SM, ML, CL, SC, CL-ML	A-4, A-6	0	0-9	81-100	80-100	57-100	40-80	13-34	2-14
	62-82	Fine sandy loam, loam, clay loam	CL-ML, ML, CL, SC-SM, SM, SC	A-4, A-6	0	0-9	81-100	80-100	67-100	37-76	13-34	2-14
Urban land.												

Table 16.—Engineering 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	
10B:												
Colescreek------	0-9	Loam, fine sandy loam	SC-SM	A-4	0	0-9	82-100	81-100	72-98	31-49	16-25	3-8
	9-56	Gravelly loam, clay loam, clay, sandy clay loam	CL, SC	A-2-4, A-6, A-7-6	0	0-16	61-100	60-100	45-100	33-88	23-52	7-23
	56-80	Sand, gravelly fine sandy loam, sandy clay loam	SP-SM, SW-SC, SW-SM, SC-SM, SP-SC, SC, SM	A-2-4	0	0-19	57-100	55-100	41-100	4-33	12-31	1-11
Delanco---------	0-10	Loam, fine sandy loam	SC-SM, CL-ML, SM, ML	A-4	0	0-10	80-100	79-100	63-94	43-69	12-25	1-8
	10-37	Gravelly loam, sandy clay loam, clay loam	CL, SC	A-6	0	0-8	76-100	75-100	62-99	47-79	23-39	7-16
	37-57	Gravelly fine sandy loam, loamy sand, clay loam	SM, SC, ML, CL-ML, CL, SC-SM	A-2-4, A-4	0	0-8	71-100	69-100	53-100	13-54	12-43	1-18
	57-80	Gravelly sand, loamy sand, clay loam, very gravelly sand	SP, SW, SC-SM, SM, SC, SW-SM, SP-SC, SP-SM, SW-SC	A-1, A-4, A-2-4	0	0-22	48-100	46-100	35-100	3-45	12-43	1-18
11A:												
Comus-----------	0-12	Sandy loam, loam, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	81-100	81-100	69-99	28-48	12-23	1-7
	12-47	Loam, fine sandy loam, sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	81-100	81-100	69-99	28-48	12-23	1-7
	47-62	Loam, gravelly sandy loam, loamy sand	SC, SC-SM, SM	A-1, A-2-4	0	0-16	60-100	59-100	45-99	13-45	12-31	1-11
Maggodee--------	0-13	Silt loam, loam, fine sandy loam	SM, SC-SM	A-4	0	0-9	81-100	81-100	69-99	28-48	12-23	1-7
	13-48	Loam, sandy loam, silt loam	CL-ML, ML, SC-SM, SM	A-4	0	0-9	81-100	81-100	65-93	44-68	12-23	1-7
	48-60	Sandy loam, cobbly loamy sand, loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0-16	60-100	59-100	47-93	32-68	12-23	1-7
Elsinboro-------	0-11	Fine sandy loam, loam	SM, SC-SM, CL-ML, ML	A-4	0	0-9	82-100	81-100	67-92	46-67	14-23	2-7
	11-38	Sandy clay loam, clay loam, loam	CL	A-6	0	0-9	83-100	82-100	67-99	51-79	23-39	7-16
	38-60	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-8	83-100	83-100	55-86	24-48	14-31	2-11

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
12C:												
Cowee-----------	0-3	Cobbly fine sandy loam, gravelly sandy loam, cobbly loam	SC-SM, SM	A-2-4, A-4	0-9	9-18	56-81	54-81	44-75	30-55	14-25	2-8
	3-18	Clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-2-4	0	0-15	63-100	61-100	48-95	26-59	23-39	7-16
	18-30	Gravelly loam, fine sandy loam, sandy clay loam	CL, CL-ML, ML, SC, SC-SM, SM	A-6, A-4, A-2-4, A-1	0	0-15	62-100	60-100	49-100	21-64	12-39	1-16
	30-43	Bedrock			---	---	---	---	---	---	---	---
	43-80	Bedrock			---	---	---	---	---	---	---	---
Cliffield-------	0-3	Very gravelly sandy loam, very cobbly fine sandy loam, very cobbly loam	GC, GC-GM, GM, SC, SC-SM, SM	A-1, A-2-4, A-2	0	35-54	45-68	42-66	36-66	15-33	13-25	1-8
	3-6	Cobbly fine sandy loam, extremely cobbly sandy loam, very cobbly loam	SC-SM, CL-ML, CL, SC, GC, GC-GM, GM	A-1, A-2-4, A-4	0-16	19-64	27-89	23-89	18-85	13-64	16-31	3-11
	6-23	Very cobbly sandy clay loam, cobbly clay loam, extremely cobbly sandy clay loam, cobbly loam	GC, GC-GM, SC	A-2-4, A-6	0-16	28-64	27-78	23-77	18-73	10-46	23-39	7-16
	23-80	Bedrock			---	---	---	---	---	---	---	---
Evard-----------	0-4	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SC, SC-SM, SM	A-1, A-4, A-2-4	0-8	0-16	59-77	57-76	47-76	19-41	12-30	1-11
	4-33	Loam, sandy clay loam, gravelly clay loam	CL, SC	A-6	0	0-17	60-100	58-100	47-99	36-79	23-39	7-16
	33-72	Gravelly fine sandy loam, loamy sand, sandy loam	SC-SM, SM	A-2-4, A-4, A-1, A-2	0	0-18	58-100	56-100	48-100	19-49	12-25	1-8
12D:												
Cowee-----------	0-3	Cobbly fine sandy loam, gravelly sandy loam, cobbly loam	SC-SM, SM	A-2-4, A-4	0-9	9-18	56-81	54-81	44-75	30-55	14-25	2-8
	3-18	Gravelly loam, sandy clay loam, clay loam	CL, SC	A-6, A-2-4	0	0-15	63-100	61-100	48-95	26-59	23-39	7-16
	18-30	Sandy clay loam, gravelly loam, fine sandy loam	CL, CL-ML, ML, SC, SC-SM, SM	A-6, A-4, A-2-4, A-1	0	0-15	62-100	60-100	49-100	21-64	12-39	1-16
	30-43	Bedrock			---	---	---	---	---	---	---	---
	43-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
12D:												
Cliffield-------	0-3	Very cobbly fine sandy loam, very gravelly sandy loam, very cobbly loam	GC, GC-GM, GM, SC, SC-SM, SM	A-1, A-2-4, A-2	0	35-54	45-68	42-66	36-66	15-33	13-25	1-8
	3-6	Very cobbly loam, cobbly fine sandy loam, extremely cobbly sandy loam	SC-SM, CL-ML, CL, SC, GC, GC-GM, GM	A-1, A-2-4, A-4	0-16	19-64	27-89	23-89	18-85	13-64	16-31	3-11
	6-23	Cobbly loam, very cobbly sandy clay loam, cobbly clay loam, extremely cobbly sandy clay loam	GC, GC-GM, SC	A-2-4, A-6	0-16	28-64	27-78	23-77	18-73	10-46	23-39	7-16
	23-80	Bedrock			---	---	---	---	---	---	---	---
Evard-----------	0-4	Gravelly fine sandy loam, gravelly loam, cobbly sandy loam	SC, SC-SM, SM	A-1, A-4, A-2-4	0-8	0-16	59-77	57-76	47-76	19-41	12-30	1-11
	4-33	Sandy clay loam, loam, gravelly clay loam	CL, SC	A-6	0	0-17	60-100	58-100	47-99	36-79	23-39	7-16
	33-72	Sandy loam, loamy sand, gravelly fine sandy loam	SM, SC-SM	A-2-4, A-4, A-1, A-2	0	0-18	58-100	56-100	48-100	19-49	12-25	1-8
12E:												
Cowee-----------	0-3	Cobbly fine sandy loam, gravelly sandy loam, cobbly loam	SC-SM, SM	A-2-4, A-4	0-9	9-18	56-81	54-81	44-75	30-55	14-25	2-8
	3-18	Clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-2-4	0	0-15	63-100	61-100	48-95	26-59	23-39	7-16
	18-30	Sandy clay loam, gravelly loam, fine sandy loam	CL, CL-ML, ML, SC, SC-SM, SM	A-6, A-4, A-2-4, A-1	0	0-15	62-100	60-100	49-100	21-64	12-39	1-16
	30-43	Bedrock			---	---	---	---	---	---	---	---
	43-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
12E:												
Cliffield-------	0-3	Very gravelly sandy loam, very cobbly loam, very cobbly fine sandy loam	GC, GC-GM, GM, SC, SC-SM, SM	A-1, A-2-4, A-2	0	35-54	45-68	42-66	36-66	15-33	13-25	1-8
	3-6	Very cobbly loam, cobbly fine sandy loam, extremely cobbly sandy loam	SC-SM, CL-ML, CL, SC, GC, GC-GM, GM	A-1, A-2-4, A-4	0-16	19-64	27-89	23-89	18-85	13-64	16-31	3-11
	6-23	Cobbly loam, very cobbly sandy clay loam, cobbly clay loam, extremely cobbly sandy clay loam	GC, SC, GC-GM	A-2-4, A-6	0-16	28-64	27-78	23-77	18-73	10-46	23-39	7-16
	23-80	Bedrock			---	---	---	---	---	---	---	---
Evard-----------	0-4	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM, SC	A-1, A-4, A-2-4	0-8	0-16	59-77	57-76	47-76	19-41	12-30	1-11
	4-33	Gravelly clay loam, loam, sandy clay loam	CL, SC	A-6	0	0-17	60-100	58-100	47-99	36-79	23-39	7-16
	33-72	Sandy loam, gravelly fine sandy loam, loamy sand	SM, SC-SM	A-2-4, A-4, A-1, A-2	0	0-18	58-100	56-100	48-100	19-49	12-25	1-8
13D:												
Cullasaja-------	0-7	Mucky channery loam, gravelly sandy loam, cobbly fine sandy loam	CL, CL-ML, SC, SM, SC-SM, ML	A-4, A-2-4	0	13-47	51-74	49-73	38-72	26-53	12-30	1-11
	7-23	Very channery fine sandy loam, cobbly sandy loam, channery fine sandy loam, very channery loam, channery loam	SM, SC-SM, CL-ML, ML	A-1, A-2-4, A-4	0-9	9-44	37-81	35-81	28-75	19-55	12-23	1-7
	23-60	Very channery fine sandy loam, channery fine sandy loam, channery loam, cobbly sandy loam	SM, SC-SM	A-1, A-2-4, A-4	0-9	9-52	33-81	31-81	27-80	11-39	12-23	1-7
Tuckasegee------	0-17	Gravelly sandy loam, cobbly loam, cobbly fine sandy loam	SM, CL-ML, ML, SC-SM	A-4	0	18-33	69-90	68-89	54-84	37-61	12-25	1-8
	17-60	Cobbly loam, cobbly sandy clay loam, gravelly sandy loam, loam	SC, CL	A-6	0	0-31	72-100	70-100	59-100	44-79	23-39	7-16

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
13E:												
Cullasaja-------	0-7	Cobbly fine sandy loam, mucky channery loam, gravelly sandy loam	CL-ML, SC, SM, SC-SM, ML, CL	A-4, A-2-4	0	13-47	51-74	49-73	38-72	26-53	12-30	1-11
	7-23	Cobbly sandy loam, very channery fine sandy loam, channery fine sandy loam, very channery loam, channery loam	SM, SC-SM, CL-ML, ML	A-1, A-2-4, A-4	0-9	9-44	37-81	35-81	28-75	19-55	12-23	1-7
	23-60	Very channery fine sandy loam, cobbly sandy loam, channery loam, channery fine sandy loam	SM, SC-SM	A-1, A-2-4, A-4	0-9	9-52	33-81	31-81	27-80	11-39	12-23	1-7
Tuckasegee------	0-17	Cobbly fine sandy loam, cobbly loam, gravelly sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	18-33	69-90	68-89	54-84	37-61	12-25	1-8
	17-60	Cobbly loam, cobbly sandy clay loam, gravelly sandy loam, loam	CL, SC	A-6	0	0-31	72-100	70-100	59-100	44-79	23-39	7-16
14C:												
Cullasaja-------	0-7	Mucky channery loam, gravelly sandy loam, cobbly fine sandy loam	CL-ML, ML, SC-SM, SM, CL, SC	A-4, A-2-4	0	13-47	51-74	49-73	38-72	26-53	12-30	1-11
	7-23	Very channery fine sandy loam, very channery loam, channery fine sandy loam, cobbly sandy loam, channery loam	ML, CL-ML, SC-SM, SM	A-1, A-2-4, A-4	0-9	9-44	37-81	35-81	28-75	19-55	12-23	1-7
	23-60	Channery fine sandy loam, cobbly sandy loam, very channery fine sandy loam, channery loam	SC-SM, SM	A-1, A-2-4, A-4	0-9	9-52	33-81	31-81	27-80	11-39	12-23	1-7
Tuckasegee------	0-17	Gravelly sandy loam, cobbly fine sandy loam, cobbly loam	SM, SC-SM, ML, CL-ML	A-4	0	18-33	69-90	68-89	54-84	37-61	12-25	1-8
	17-60	Loam, gravelly sandy loam, cobbly sandy clay loam, cobbly loam	CL, SC	A-6	0	0-31	72-100	70-100	59-100	44-79	23-39	7-16

Table 16.—Engineering 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	
14C:												
Dellwood--------	0-8	Cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM	A-4, A-2-4, A-2	0	17-32	71-90	70-90	51-74	24-41	12-21	1-6
	8-18	Very cobbly sandy loam, gravelly sandy loam, cobbly sandy loam, very gravelly fine sandy loam	SC-SM, SM	A-1, A-4, A-2-4, A-2	0	16-48	50-91	48-91	35-75	17-41	12-21	1-6
	18-60	Gravelly sand, very cobbly loamy sand, cobbly sand	SM, SW-SM	A-1, A-2-4	0-8	8-30	36-83	33-83	25-69	6-22	10-16	NP-3
15E:												
Drapermill------	0-3	Gravelly silt loam, gravelly fine sandy loam, channery loam, gravelly loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	4-8	56-80	55-79	45-75	32-57	12-23	1-7
	3-35	Gravelly silt loam, loam, silty clay loam, clay loam	SC, CL	A-6	0	0-8	56-100	55-100	48-100	41-93	23-39	7-16
	35-80	Bedrock			---	---	---	---	---	---	---	---
16C:												
Edneytown-------	0-4	Gravelly loam, gravelly sandy loam, gravelly fine sandy loam	SM, SC-SM, CL-ML, ML	A-4	0	0-23	66-84	65-84	53-77	36-55	12-21	1-6
	4-52	Sandy clay loam, gravelly loam, clay loam	SC, CL	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	52-65	Loam, fine sandy loam, gravelly sandy loam	CL-ML, ML, SM, SC-SM	A-2-4, A-4	0	0-9	75-100	74-100	64-97	30-51	12-21	1-6
Sauratown-------	0-3	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	ML, SC-SM, CL-ML, SM	A-2-4, A-4	0	9-18	58-81	56-81	44-76	30-55	12-25	1-8
	3-26	Clay loam, sandy clay loam, gravelly loam	CL, SC	A-2-4, A-6	0	0-18	58-100	56-100	46-99	35-79	23-39	7-16
	26-33	Bedrock			---	---	---	---	---	---	---	---
	33-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16D:												
Edneytown-------	0-4	Gravelly fine sandy loam, gravelly sandy loam, gravelly loam	SM, SC-SM, CL-ML, ML	A-2-4, A-4	0	0-16	61-84	60-84	49-77	34-55	12-21	1-6
	4-12	Gravelly fine sandy loam, clay loam, loam	CL, CL-ML, ML, SC, SC-SM, SM	A-6, A-4	0	0-8	76-100	75-100	57-100	38-76	12-34	1-13
	12-35	Sandy clay loam, gravelly loam, clay loam	CL, SC	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	35-45	Clay loam, gravelly loam, sandy clay loam	CL, SC	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	45-52	Loam, gravelly fine sandy loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0-9	75-100	74-100	57-100	40-79	16-39	3-16
	52-65	Loam, gravelly sandy loam, fine sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0-9	75-100	74-100	64-97	30-51	12-21	1-6
Sauratown-------	0-3	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	SC-SM, SM, ML, CL-ML	A-2-4, A-4	0	9-18	58-81	56-81	44-76	30-55	12-25	1-8
	3-26	Gravelly loam, sandy clay loam, clay loam	SC, CL	A-2-4, A-6	0	0-18	58-100	56-100	46-99	35-79	23-39	7-16
	26-33	Bedrock			---	---	---	---	---	---	---	---
	33-80	Bedrock			---	---	---	---	---	---	---	---
16E:												
Edneytown-------	0-4	Gravelly loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, SM, ML, CL-ML	A-2-4, A-4	0	0-16	61-84	60-84	49-77	34-55	12-21	1-6
	4-12	Loam, clay loam, gravelly fine sandy loam	SM, SC-SM, SC, CL, CL-ML, ML	A-6, A-4	0	0-8	76-100	75-100	57-100	38-76	12-34	1-13
	12-35	Gravelly loam, clay loam, sandy clay loam	CL, SC	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	35-45	Gravelly loam, clay loam, sandy clay loam	SC, CL	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	45-52	Clay loam, gravelly fine sandy loam, loam	SC, CL-ML, CL, SC-SM	A-6, A-4	0	0-9	75-100	74-100	57-100	40-79	16-39	3-16
	52-65	Loam, gravelly sandy loam, fine sandy loam	CL-ML, ML, SM, SC-SM	A-2-4, A-4	0	0-9	75-100	74-100	64-97	30-51	12-21	1-6
Sauratown-------	0-3	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SC-SM, CL-ML, ML, SM	A-2-4, A-4	0	9-18	58-81	56-81	44-76	30-55	12-25	1-8
	3-26	Clay loam, sandy clay loam, gravelly loam	SC, CL	A-2-4, A-6	0	0-18	58-100	56-100	46-99	35-79	23-39	7-16
	26-33	Bedrock			---	---	---	---	---	---	---	---
	33-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
16F:												
Edneytown-------	0-4	Gravelly sandy loam, gravelly fine sandy loam, gravelly loam	CL-ML, SC-SM, SM, ML	A-2-4, A-4	0	0-16	61-84	60-84	49-77	34-55	12-21	1-6
	4-12	Loam, clay loam, gravelly fine sandy loam	ML, CL, CL-ML, SM, SC-SM, SC	A-6, A-4	0	0-8	76-100	75-100	57-100	38-76	12-34	1-13
	12-35	Gravelly loam, clay loam, sandy clay loam	SC, CL	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	35-45	Gravelly loam, clay loam, sandy clay loam	SC, CL	A-6	0	0-9	74-100	73-100	61-98	46-78	25-39	8-16
	45-52	Gravelly fine sandy loam, clay loam, loam	CL-ML, SC, SC-SM, CL	A-6, A-4	0	0-9	75-100	74-100	57-100	40-79	16-39	3-16
	52-65	Loam, gravelly sandy loam, fine sandy loam	CL-ML, SC-SM, SM, ML	A-2-4, A-4	0	0-9	75-100	74-100	64-97	30-51	12-21	1-6
Sauratown-------	0-3	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM, ML, CL-ML	A-2-4, A-4	0	9-18	58-81	56-81	44-76	30-55	12-25	1-8
	3-26	Sandy clay loam, gravelly loam, clay loam	CL, SC	A-2-4, A-6	0	0-18	58-100	56-100	46-99	35-79	23-39	7-16
	26-33	Bedrock			---	---	---	---	---	---	---	---
	33-80	Bedrock			---	---	---	---	---	---	---	---
17B:												
Elsinboro-------	0-11	Fine sandy loam, loam	ML, CL-ML, SC-SM, SM	A-4	0	0-9	82-100	81-100	67-92	46-67	14-23	2-7
	11-38	Sandy clay loam, clay loam, loam	CL	A-6	0	0-9	83-100	82-100	67-99	51-79	23-39	7-16
	38-60	Fine sandy loam, sandy loam, loam	SM, SC-SM, SC	A-2-4, A-4	0	0-8	83-100	83-100	55-86	24-48	14-31	2-11
Colescreek------	0-9	Loam, fine sandy loam	SC-SM	A-4	0	0-9	82-100	81-100	72-98	31-49	16-25	3-8
	9-56	Clay loam, sandy clay loam, gravelly loam, clay	SC, CL	A-2-4, A-6, A-7-6	0	0-16	61-100	60-100	45-100	33-88	23-52	7-23
	56-80	Sandy clay loam, gravelly fine sandy loam, sand	SW-SM, SC-SM, SW-SC, SM, SP-SM, SP-SC, SC	A-2-4	0	0-19	57-100	55-100	41-100	4-33	12-31	1-11

Table 16.—Engineering 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	
18E:												
Goblintown------	0-8	Loam, silt loam, fine sandy loam	CL-ML, SM, SC, SC-SM, ML, CL	A-4	0	0-9	80-100	80-100	63-97	44-72	13-25	2-9
	8-29	Clay, clay loam, channery silty clay	CL	A-6, A-7-6	0-5	0-25	73-100	72-100	61-100	49-88	31-45	13-21
	29-36	Silty clay loam, channery very fine sandy loam, very parachannery silt loam	SC-SM, CL, CL-ML	A-4, A-6	0-11	0-26	77-100	76-100	66-100	59-100	16-34	5-14
	36-62	Bedrock			---	---	---	---	---	---	---	---
Drapermill------	0-3	Gravelly loam, gravelly fine sandy loam, channery loam, gravelly silt loam	SC-SM, SM, CL-ML, ML	A-2-4, A-4	0	4-8	56-80	55-79	45-75	32-57	12-23	1-7
	3-35	Gravelly silt loam, silty clay loam, loam, clay loam	SC, CL	A-6	0	0-8	56-100	55-100	48-100	41-93	23-39	7-16
	35-80	Bedrock			---	---	---	---	---	---	---	---
Penhook---------	0-6	Loam	CL-ML, ML, CL	A-4	0	0-9	81-100	81-100	63-98	43-74	13-31	1-11
	6-43	Channery silty clay, clay loam, clay	CL, MH, CH	A-7	0	0-9	81-100	81-100	64-100	54-92	39-61	16-28
	43-63	Silt loam, loam, channery loam	CL-ML, ML, CL	A-4	0	0	100	100	77-99	52-74	12-31	1-11
19C:												
Hayesville------	0-9	Fine sandy loam, loam	SC-SM, SM, SC, CL, CL-ML, ML	A-4	0	0	77-100	76-100	61-95	42-71	13-34	2-9
	9-48	Clay, clay loam	CL	A-6, A-7-6	0	0	74-100	73-100	58-100	49-92	31-49	13-22
	48-54	Sandy clay loam, clay loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	75-100	74-100	60-100	46-82	20-34	6-14
	54-61	Sandy loam, loam, fine sandy loam	SC-SM, SM, SC, ML, CL-ML, CL	A-4	0	0	78-100	77-100	60-98	41-73	9-24	1-9
19D:												
Hayesville------	0-9	Loam, fine sandy loam	CL-ML, ML, SC, SC-SM, SM, CL	A-4	0	0	77-100	76-100	61-95	42-71	13-34	2-9
	9-48	Clay, clay loam	CL	A-6, A-7-6	0	0	74-100	73-100	58-100	49-92	31-49	13-22
	48-54	Sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	75-100	74-100	60-100	46-82	20-34	6-14
	54-61	Loam, sandy loam, fine sandy loam	SC, SC-SM, SM, ML, CL-ML, CL	A-4	0	0	78-100	77-100	60-98	41-73	9-24	1-9

Table 16.—Engineering 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	
20E:												
Hayesville------	0-9	Fine sandy loam, loam	SM, CL-ML, ML, SC, SC-SM, CL	A-4	0	0	77-100	76-100	61-95	42-71	13-34	2-9
	9-48	Clay, clay loam	CL	A-6, A-7-6	0	0	74-100	73-100	58-100	49-92	31-49	13-22
	48-54	Sandy clay loam, clay loam	SC-SM, CL, CL-ML, SC	A-4, A-6	0	0	75-100	74-100	60-100	46-82	20-34	6-14
	54-61	Sandy loam, loam, fine sandy loam	CL, SM, SC-SM, SC, ML, CL-ML	A-4	0	0	78-100	77-100	60-98	41-73	9-24	1-9
21F:												
Hickoryknob-----	0-4	Fine sandy loam, loam	SM, SC-SM, CL-ML, ML	A-4	0	0-13	86-100	86-100	70-94	48-68	14-25	2-8
	4-23	Channery loam, channery clay loam, clay loam	CL	A-4, A-6	0	0-37	74-100	73-100	60-99	46-79	23-39	7-16
	23-36	Bedrock			---	---	---	---	---	---	---	---
	36-80	Bedrock			---	---	---	---	---	---	---	---
Rhodhiss--------	0-5	Fine sandy loam, loam	SM, CL-ML, ML, SC-SM	A-4	0	0-13	77-100	77-100	61-94	41-69	12-25	1-8
	5-38	Channery loam, loam, clay loam	CL	A-4, A-6	0	0-13	78-100	77-100	63-99	48-79	23-39	7-16
	38-80	Sandy loam, channery loam, loamy sand	SC-SM, SM	A-2-4, A-4, A-2	0	0-13	77-100	77-100	53-84	23-46	12-25	1-8
22C:												
Hickoryknob-----	0-4	Fine sandy loam, loam	ML, CL-ML, SC-SM, SM	A-4	0	0-13	86-100	86-100	70-94	48-68	14-25	2-8
	4-23	Channery loam, channery clay loam, clay loam	CL	A-4, A-6	0	0-37	74-100	73-100	60-99	46-79	23-39	7-16
	23-36	Bedrock			---	---	---	---	---	---	---	---
	36-80	Bedrock			---	---	---	---	---	---	---	---
Rhodhiss--------	0-5	Loam, fine sandy loam	CL-ML, ML, SM, SC-SM	A-4	0	0-13	77-100	77-100	61-94	41-69	12-25	1-8
	5-38	Loam, channery loam, clay loam	CL	A-4, A-6	0	0-13	78-100	77-100	63-99	48-79	23-39	7-16
	38-80	Loamy sand, sandy loam, channery loam	SC-SM, SM	A-2-4, A-4, A-2	0	0-13	77-100	77-100	53-84	23-46	12-25	1-8

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
22C:												
Stott Knob------	0-4	Fine sandy loam, loam	SM, CL-ML, ML, SC-SM	A-4	0	0-4	79-100	78-100	64-94	44-68	14-25	2-8
	4-19	Channery loam, loam, clay loam	CL	A-4, A-6	0	0-4	80-100	79-100	65-99	49-79	23-39	7-16
	19-31	Gravelly loam, channery fine sandy loam, sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0-4	66-100	64-100	52-94	36-68	14-25	2-8
	31-38	Channery fine sandy loam, sandy loam, extremely parachannery loam	SC-SM, ML, GC-GM, GM, GW-GM, SM, CL-ML	A-1, A-2-4, A-4	0-22	0-54	22-100	21-100	17-94	12-68	14-25	2-8
	38-80	Bedrock			---	---	---	---	---	---	---	---
22D:												
Hickoryknob-----	0-4	Fine sandy loam, loam	ML, SM, SC-SM, CL-ML	A-4	0	0-13	86-100	86-100	70-94	48-68	14-25	2-8
	4-23	Channery loam, channery clay loam, clay loam	CL	A-4, A-6	0	0-37	74-100	73-100	60-99	46-79	23-39	7-16
	23-36	Bedrock			---	---	---	---	---	---	---	---
	36-80	Bedrock			---	---	---	---	---	---	---	---
Rhodhiss--------	0-5	Loam, fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0-13	77-100	77-100	61-94	41-69	12-25	1-8
	5-38	Channery loam, loam, clay loam	CL	A-4, A-6	0	0-13	78-100	77-100	63-99	48-79	23-39	7-16
	38-80	Sandy loam, channery loam, loamy sand	SC-SM, SM	A-2-4, A-4, A-2	0	0-13	77-100	77-100	53-84	23-46	12-25	1-8
Stott Knob------	0-4	Loam, fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0-4	79-100	78-100	64-94	44-68	14-25	2-8
	4-19	Channery loam, loam, clay loam	CL	A-4, A-6	0	0-4	80-100	79-100	65-99	49-79	23-39	7-16
	19-31	Sandy loam, gravelly loam, channery fine sandy loam	ML, SC-SM, SM, CL-ML	A-4	0	0-4	66-100	64-100	52-94	36-68	14-25	2-8
	31-38	Channery fine sandy loam, extremely parachannery loam, sandy loam	GW-GM, ML, CL-ML, SC-SM, SM, GC-GM, GM	A-1, A-2-4, A-4	0-22	0-54	22-100	21-100	17-94	12-68	14-25	2-8
	38-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
22E:												
Hickoryknob-----	0-4	Loam, fine sandy loam	ML, CL-ML, SC-SM, SM	A-4	0	0-13	86-100	86-100	70-94	48-68	14-25	2-8
	4-23	Clay loam, channery clay loam, channery loam	CL	A-4, A-6	0	0-37	74-100	73-100	60-99	46-79	23-39	7-16
	23-36	Bedrock			---	---	---	---	---	---	---	---
	36-80	Bedrock			---	---	---	---	---	---	---	---
Rhodhiss--------	0-5	Loam, fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0-13	77-100	77-100	61-94	41-69	12-25	1-8
	5-38	Channery loam, clay loam, loam	CL	A-4, A-6	0	0-13	78-100	77-100	63-99	48-79	23-39	7-16
	38-80	Sandy loam, channery loam, loamy sand	SM, SC-SM	A-2-4, A-4, A-2	0	0-13	77-100	77-100	53-84	23-46	12-25	1-8
Stott Knob------	0-4	Fine sandy loam, loam	SC-SM, SM, ML, CL-ML	A-4	0	0-4	79-100	78-100	64-94	44-68	14-25	2-8
	4-19	Channery loam, clay loam, loam	CL	A-4, A-6	0	0-4	80-100	79-100	65-99	49-79	23-39	7-16
	19-31	Sandy loam, channery fine sandy loam, gravelly loam	SC-SM, ML, CL-ML, SM	A-4	0	0-4	66-100	64-100	52-94	36-68	14-25	2-8
	31-38	Extremely parachannery loam, channery fine sandy loam, sandy loam	CL-ML, ML, SC-SM, SM, GM, GW-GM, GC-GM	A-1, A-2-4, A-4	0-22	0-54	22-100	21-100	17-94	12-68	14-25	2-8
	38-80	Bedrock			---	---	---	---	---	---	---	---
23A:												
Iotla-----------	0-3	Sandy loam, fine sandy loam, loam	SC-SM	A-2-4, A-4	0	0	85-100	84-100	63-80	31-43	18-23	4-7
	3-31	Sandy loam, loam, fine sandy loam	SC, SC-SM, CL-ML, CL	A-2-4, A-4	0	0	85-100	84-100	75-99	34-51	18-28	4-10
	31-43	Loam, sandy loam, loamy sand	SC, SC-SM	A-2-4, A-4	0	0	85-100	84-100	60-82	28-44	18-28	4-10
	43-80	Gravelly sandy loam, loam, extremely cobbly loamy sand	SC, GC-GM, SC-SM	A-1, A-2-4	0	19-48	19-56	15-54	11-48	2-15	18-25	4-8
Maggodee--------	0-13	Fine sandy loam, loam, silt loam	SC-SM, SM	A-4	0	0-9	81-100	81-100	69-99	28-48	12-23	1-7
	13-48	Loam, sandy loam, silt loam	SM, SC-SM, CL-ML, ML	A-4	0	0-9	81-100	81-100	65-93	44-68	12-23	1-7
	48-60	Loam, sandy loam, cobbly loamy sand	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0-16	60-100	59-100	47-93	32-68	12-23	1-7

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
23A:												
Colescreek------	0-9	Fine sandy loam, loam	SC-SM	A-4	0	0-9	82-100	81-100	72-98	31-49	16-25	3-8
	9-56	Gravelly loam, sandy clay loam, clay loam, clay	CL, SC	A-2-4, A-6, A-7-6	0	0-16	61-100	60-100	45-100	33-88	23-52	7-23
	56-80	Sand, gravelly fine sandy loam, sandy clay loam	SP-SC, SM, SC-SM, SP-SM, SW-SC, SW-SM, SC	A-2-4	0	0-19	57-100	55-100	41-100	4-33	12-31	1-11
24B:												
Jackland--------	0-6	Loam, silt loam	CL	A-6, A-7-6	0	0-12	78-100	77-100	67-100	56-85	31-43	13-23
	6-48	Gravelly clay loam, silty clay, clay	CH	A-7, A-7-6	0	0-10	72-100	71-100	56-100	47-92	51-76	29-49
	48-63	Sandy clay, sandy clay loam, clay, gravelly fine sandy loam	SC, CL, CH	A-7, A-2-6, A-7-6	0	0-10	72-100	71-100	45-98	21-64	31-66	13-41
	63-80	Clay loam, gravelly fine sandy loam, loam	CH, CL, SC	A-7, A-7-6	0	0-10	72-100	71-100	53-100	37-83	26-56	9-33
Mirerock--------	0-6	Gravelly loam, cobbly silt loam, gravelly fine sandy loam, loam	CL, SC	A-7-6, A-6	0	0-22	52-78	50-78	40-75	28-56	26-43	9-23
	6-17	Silt loam, gravelly loam, loam	CL, SC	A-7-6, A-6	0	0-12	69-100	67-100	53-97	37-72	26-43	9-23
	17-35	Clay, gravelly clay loam, clay loam	CH	A-7-6, A-7	0	0-10	72-100	71-100	56-100	47-92	51-76	29-49
	35-49	Bedrock			---	---	---	---	---	---	---	---
	49-80	Bedrock			---	---	---	---	---	---	---	---
Redbrush--------	0-5	Loam, silt loam	CL-ML, CL, ML	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Gravelly loam, loam, silt loam	CL, CL-ML, ML	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay, gravelly clay loam, clay loam	CL, CH	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Gravelly fine sandy loam, silt loam, clay	CL, CH	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
24C:												
Jackland--------	0-6	Loam, silt loam	CL	A-6, A-7-6	0	0-12	78-100	77-100	67-100	56-85	31-43	13-23
	6-48	Gravelly clay loam, silty clay, clay	CH	A-7, A-7-6	0	0-10	72-100	71-100	56-100	47-92	51-76	29-49
	48-63	Gravelly fine sandy loam, sandy clay, sandy clay loam, clay	CH, SC, CL	A-7, A-2-6, A-7-6	0	0-10	72-100	71-100	45-98	21-64	31-66	13-41
	63-80	Loam, gravelly fine sandy loam, clay loam	SC, CL, CH	A-7, A-7-6	0	0-10	72-100	71-100	53-100	37-83	26-56	9-33
Mirerock--------	0-6	Loam, cobbly silt loam, gravelly fine sandy loam, gravelly loam	SC, CL	A-7-6, A-6	0	0-22	52-78	50-78	40-75	28-56	26-43	9-23
	6-17	Gravelly loam, silt loam, loam	CL, SC	A-7-6, A-6	0	0-12	69-100	67-100	53-97	37-72	26-43	9-23
	17-35	Clay, gravelly clay loam, clay loam	CH	A-7-6, A-7	0	0-10	72-100	71-100	56-100	47-92	51-76	29-49
	35-49	Bedrock			---	---	---	---	---	---	---	---
	49-80	Bedrock			---	---	---	---	---	---	---	---
Redbrush--------	0-5	Loam, silt loam	ML, CL-ML, CL	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Silt loam, loam, gravelly loam	ML, CL-ML, CL	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay, gravelly clay loam, clay loam	CL, CH	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Silt loam, gravelly fine sandy loam, clay	CL, CH	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---
25C:												
Littlejoe-------	0-8	Loam, fine sandy loam	SC, SC-SM, CL-ML, CL	A-4	0	0-14	84-100	84-100	68-96	48-72	18-31	4-11
	8-45	Channery silty clay, clay loam, clay	MH, CL, CH	A-7	0	0-15	82-100	82-100	60-100	52-97	39-61	16-28
	45-59	Bedrock			---	---	---	---	---	---	---	---
	59-80	Bedrock			---	---	---	---	---	---	---	---
Penhook---------	0-6	Loam	CL-ML, CL, ML	A-4	0	0-9	81-100	81-100	63-98	43-74	13-31	1-11
	6-43	Clay loam, channery silty clay, clay	MH, CH, CL	A-7	0	0-9	81-100	81-100	64-100	54-92	39-61	16-28
	43-63	Silt loam, channery loam, loam	CL-ML, ML, CL	A-4	0	0	100	100	77-99	52-74	12-31	1-11

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
25C:												
Goblintown------	0-8	Loam, silt loam, fine sandy loam	SC-SM, SM, SC, CL-ML, ML, CL	A-4	0	0-9	80-100	80-100	63-97	44-72	13-25	2-9
	8-29	Clay, clay loam, channery silty clay	CL	A-6, A-7-6	0-5	0-25	73-100	72-100	61-100	49-88	31-45	13-21
	29-36	Silty clay loam, channery very fine sandy loam, very parachannery silt loam	CL, CL-ML, SC-SM	A-4, A-6	0-11	0-26	77-100	76-100	66-100	59-100	16-34	5-14
	36-62	Bedrock			---	---	---	---	---	---	---	---
25D:												
Littlejoe-------	0-8	Loam, fine sandy loam	CL-ML, CL, SC, SC-SM	A-4	0	0-14	84-100	84-100	68-96	48-72	18-31	4-11
	8-45	Clay, clay loam, channery silty clay	CH, CL, MH	A-7	0	0-15	82-100	82-100	60-100	52-97	39-61	16-28
	45-59	Bedrock			---	---	---	---	---	---	---	---
	59-80	Bedrock			---	---	---	---	---	---	---	---
Penhook---------	0-6	Loam	CL, ML, CL-ML	A-4	0	0-9	81-100	81-100	63-98	43-74	13-31	1-11
	6-43	Clay, clay loam, channery silty clay	CH, CL, MH	A-7	0	0-9	81-100	81-100	64-100	54-92	39-61	16-28
	43-63	Channery loam, loam, silt loam	CL-ML, ML, CL	A-4	0	0	100	100	77-99	52-74	12-31	1-11
Goblintown------	0-8	Loam, silt loam, fine sandy loam	ML, SC-SM, SM, SC, CL-ML, CL	A-4	0	0-9	80-100	80-100	63-97	44-72	13-25	2-9
	8-29	Channery silty clay, clay loam, clay	CL	A-6, A-7-6	0-5	0-25	73-100	72-100	61-100	49-88	31-45	13-21
	29-36	Channery very fine sandy loam, very parachannery silt loam, silty clay loam	SC-SM, CL, CL-ML	A-4, A-6	0-11	0-26	77-100	76-100	66-100	59-100	16-34	5-14
	36-62	Bedrock			---	---	---	---	---	---	---	---
26C:												
Littlejoe-------	0-8	Loam, fine sandy loam	CL, CL-ML, SC-SM, SC	A-4	0	0-14	84-100	84-100	68-96	48-72	18-31	4-11
	8-45	Channery silty clay, clay, clay loam	MH, CL, CH	A-7	0	0-15	82-100	82-100	60-100	52-97	39-61	16-28
	45-59	Bedrock			---	---	---	---	---	---	---	---
	59-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
26C:												
Strawfield------	0-2	Clay loam, silt loam, loam, fine sandy loam	SC-SM, CL-ML, CL, SC	A-7-6, A-6	0	0-8	83-100	83-100	61-100	44-83	16-43	3-18
	2-9	Clay loam, loam, channery silt loam, silty clay loam	CL	A-6, A-4, A-7-6	0	0-15	74-100	74-100	60-100	46-82	25-43	8-18
	9-22	Clay, silty clay, channery clay loam	CH, MH, CL	A-7	0	0-20	76-100	76-100	61-100	55-97	39-61	16-28
	22-80	Bedrock			---	---	---	---	---	---	---	---
Penhook---------	0-6	Loam	CL, CL-ML, ML	A-4	0	0-9	81-100	81-100	63-98	43-74	13-31	1-11
	6-43	Clay, clay loam, channery silty clay	CL, MH, CH	A-7	0	0-9	81-100	81-100	64-100	54-92	39-61	16-28
	43-63	Channery loam, silt loam, loam	CL, ML, CL-ML	A-4	0	0	100	100	77-99	52-74	12-31	1-11
26D:												
Littlejoe-------	0-8	Loam, fine sandy loam	SC, CL, CL-ML, SC-SM	A-4	0	0-14	84-100	84-100	68-96	48-72	18-31	4-11
	8-45	Clay loam, channery silty clay, clay	CH, MH, CL	A-7	0	0-15	82-100	82-100	60-100	52-97	39-61	16-28
	45-59	Bedrock			---	---	---	---	---	---	---	---
	59-80	Bedrock			---	---	---	---	---	---	---	---
Strawfield------	0-2	Silt loam, loam, fine sandy loam, clay loam	SC, SC-SM, CL-ML, CL	A-6, A-7-6	0	0-8	83-100	83-100	61-100	44-83	16-43	3-18
	2-9	Silty clay loam, clay loam, channery silt loam, loam	CL	A-6, A-4, A-7-6	0	0-15	74-100	74-100	60-100	46-82	25-43	8-18
	9-22	Silty clay, channery clay loam, clay	MH, CL, CH	A-7	0	0-20	76-100	76-100	61-100	55-97	39-61	16-28
	22-80	Bedrock			---	---	---	---	---	---	---	---
Penhook---------	0-6	Loam	CL-ML, CL, ML	A-4	0	0-9	81-100	81-100	63-98	43-74	13-31	1-11
	6-43	Clay, clay loam, channery silty clay	CH, MH, CL	A-7	0	0-9	81-100	81-100	64-100	54-92	39-61	16-28
	43-63	Loam, silt loam, channery loam	CL-ML, CL, ML	A-4	0	0	100	100	77-99	52-74	12-31	1-11
27B:												
Minnieville-----	0-4	Clay loam, loam	ML, CL, CL-ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Gravelly clay loam, clay loam, clay	CH, CL	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Gravelly clay loam, clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
27C:												
Minnieville-----	0-4	Clay loam, loam	CL, CL-ML, ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Gravelly clay loam, clay, clay loam	CH, CL	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Clay loam, gravelly clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
27D:												
Minnieville-----	0-4	Clay loam, loam	CL, CL-ML, ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Gravelly clay loam, clay loam, clay	CH, CL	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Gravelly clay loam, clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
27E:												
Minnieville-----	0-4	Clay loam, loam	CL-ML, CL, ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Gravelly clay loam, clay loam, clay	CH, CL	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Clay loam, gravelly clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
28C:												
Minnieville-----	0-4	Clay loam, loam	ML, CL, CL-ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Clay, clay loam, gravelly clay loam	CL, CH	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Gravelly clay loam, clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
Orenda----------	0-6	Fine sandy loam, loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0	0-9	73-100	72-100	58-97	40-72	21-36	4-16
	6-25	Gravelly clay loam, clay loam, clay	SC, CH	A-7-6, A-7	0	0-9	67-100	66-100	52-100	44-92	44-66	22-39
	25-62	Silt loam, loam, gravelly fine sandy loam	SC, SM, SC-SM, CL, CL-ML, ML	A-4, A-6, A-2-4	0	0-9	66-100	65-100	50-99	34-74	17-36	1-16
Redbrush--------	0-5	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Gravelly loam, silt loam, loam	CL-ML, CL, ML	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay loam, clay, gravelly clay loam	CH, CL	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Silt loam, gravelly fine sandy loam, clay	CH, CL	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
28D:												
Minnieville-----	0-4	Clay loam, loam	ML, CL, CL-ML	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Clay, clay loam, gravelly clay loam	CH, CL	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Clay loam, gravelly clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
Orenda----------	0-6	Loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-9	73-100	72-100	58-97	40-72	21-36	4-16
	6-25	Gravelly clay loam, clay, clay loam	SC, CH	A-7-6, A-7	0	0-9	67-100	66-100	52-100	44-92	44-66	22-39
	25-62	Silt loam, loam, gravelly fine sandy loam	SC, CL, CL-ML, ML, SC-SM, SM	A-4, A-6, A-2-4	0	0-9	66-100	65-100	50-99	34-74	17-36	1-16
Redbrush--------	0-5	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0-10	81-100	80-100	62-98	43-74	18-36	2-16
	5-12	Silt loam, gravelly loam, loam	CL, CL-ML, ML	A-6, A-4	0	0-18	80-100	80-100	62-98	43-74	18-36	2-16
	12-23	Clay loam, gravelly clay loam, clay	CH, CL	A-7-6, A-7	0	0-10	72-100	71-100	56-100	48-92	44-66	22-39
	23-30	Gravelly fine sandy loam, silt loam, clay	CH, CL	A-7-6, A-7	0	0-10	73-100	71-100	62-100	55-100	26-57	8-32
	30-38	Bedrock			---	---	---	---	---	---	---	---
	38-80	Bedrock			---	---	---	---	---	---	---	---
29C:												
Minnieville-----	0-4	Clay loam, loam	CL-ML, ML, CL	A-6, A-4	0	0-9	81-100	81-100	59-100	41-83	11-34	1-14
	4-53	Clay, clay loam, gravelly clay loam	CL, CH	A-6, A-7-6, A-7	0	0	100	100	77-100	67-100	31-56	13-26
	53-81	Clay loam, gravelly clay loam	CL	A-6	0	0	100	100	84-97	65-78	25-34	9-14
Urban land.												
30C:												
Myersville------	0-4	Silt loam, loam	CL, CL-ML, ML	A-4	0	0-13	85-100	85-100	67-94	45-69	17-30	1-11
	4-25	Loam, silty clay loam, channery clay loam	CL, SC	A-6, A-7-6	0-10	0-29	72-100	71-100	59-99	44-79	28-44	9-22
	25-58	Channery fine sandy loam, parachannery loam, silt loam	SM, SC-SM, CL, CL-ML, ML, SC	A-4, A-6	0-10	0-17	89-100	89-100	68-99	46-74	17-36	1-16
	58-70	Bedrock			---	---	---	---	---	---	---	---
	70-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
30D:												
Myersville------	0-4	Silt loam, loam	CL, CL-ML, ML	A-4	0	0-13	85-100	85-100	67-94	45-69	17-30	1-11
	4-25	Channery clay loam, loam, silty clay loam	SC, CL	A-6, A-7-6	0-10	0-29	72-100	71-100	59-99	44-79	28-44	9-22
	25-58	Parachannery loam, silt loam, channery fine sandy loam	SC, SM, SC-SM, CL, CL-ML, ML	A-4, A-6	0-10	0-17	89-100	89-100	68-99	46-74	17-36	1-16
	58-70	Bedrock			---	---	---	---	---	---	---	---
	70-80	Bedrock			---	---	---	---	---	---	---	---
31E:												
Myersville------	0-4	Silt loam, loam	ML, CL-ML, CL	A-4	0	0-13	85-100	85-100	67-94	45-69	17-30	1-11
	4-25	Channery clay loam, silty clay loam, loam	SC, CL	A-6, A-7-6	0-10	0-29	72-100	71-100	59-99	44-79	28-44	9-22
	25-58	Silt loam, parachannery loam, channery fine sandy loam	CL, SC-SM, SM, SC, CL-ML, ML	A-4, A-6	0-10	0-17	89-100	89-100	68-99	46-74	17-36	1-16
	58-70	Bedrock			---	---	---	---	---	---	---	---
	70-80	Bedrock			---	---	---	---	---	---	---	---
Walnut----------	0-4	Loam, sandy loam, fine sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0-9	82-100	81-100	69-100	28-49	17-30	1-11
	4-25	Loam, fine sandy loam, gravelly sandy loam	SC-SM, SM, SC	A-2-4, A-4, A-1	0	0-17	60-100	58-100	49-100	20-49	17-30	1-11
	25-41	Bedrock			---	---	---	---	---	---	---	---
	41-80	Bedrock			---	---	---	---	---	---	---	---
32F:												
Myersville------	0-4	Silt loam, loam	CL, CL-ML, ML	A-4	0	0-13	85-100	85-100	67-94	45-69	17-30	1-11
	4-25	Loam, channery clay loam, silty clay loam	CL, SC	A-6, A-7-6	0-10	0-29	72-100	71-100	59-99	44-79	28-44	9-22
	25-58	Silt loam, channery fine sandy loam, parachannery loam	SC, ML, CL-ML, CL, SM, SC-SM	A-4, A-6	0-10	0-17	89-100	89-100	68-99	46-74	17-36	1-16
	58-70	Bedrock			---	---	---	---	---	---	---	---
	70-80	Bedrock			---	---	---	---	---	---	---	---
Walnut----------	0-4	Loam, sandy loam, fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-9	82-100	81-100	69-100	28-49	17-30	1-11
	4-25	Loam, fine sandy loam, gravelly sandy loam	SM, SC, SC-SM	A-2-4, A-4, A-1	0	0-17	60-100	58-100	49-100	20-49	17-30	1-11
	25-41	Bedrock			---	---	---	---	---	---	---	---
	41-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
33E:												
Peaks-----------	0-5	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SM, SC-SM, CL-ML, ML	A-2-4, A-4	0	0-18	58-82	56-82	45-76	31-55	11-21	NP-6
	5-34	Very cobbly sandy loam, very gravelly fine sandy loam, very cobbly loam	SC-SM, SM, GC-GM	A-4, A-2-4, A-1, A-2	0	26-46	42-63	40-61	32-57	22-42	12-23	1-7
	34-80	Bedrock			---	---	---	---	---	---	---	---
Ashe------------	0-1	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	SM, SC-SM	A-1, A-2-4, A-4	0	0-17	59-83	57-82	49-81	21-40	13-25	1-8
	1-25	Gravelly fine sandy loam, cobbly fine sandy loam, sandy loam, loam	SC-SM, SM	A-4, A-2-4, A-1	0	0-17	59-83	57-82	50-81	21-39	13-23	1-7
	25-80	Bedrock			---	---	---	---	---	---	---	---
Edneyville------	0-6	Gravelly fine sandy loam, gravelly loam, cobbly sandy loam	SM, SC-SM, CL-ML, ML	A-2-4, A-4	0	0-17	59-83	57-82	45-77	31-56	12-25	1-8
	6-29	Gravelly sandy loam, loam, fine sandy loam	SC-SM, SM, CL-ML, ML	A-4	0	0-9	67-100	66-100	54-92	37-67	13-23	1-7
	29-61	Loam, gravelly loamy sand, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	67-100	66-100	56-100	23-49	12-25	1-8
33F:												
Peaks-----------	0-5	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0-18	58-82	56-82	45-76	31-55	11-21	NP-6
	5-34	Very gravelly fine sandy loam, very cobbly loam, very cobbly sandy loam	GC-GM, SC-SM, SM	A-4, A-2-4, A-1, A-2	0	26-46	42-63	40-61	32-57	22-42	12-23	1-7
	34-80	Bedrock			---	---	---	---	---	---	---	---
Ashe------------	0-1	Gravelly loam, cobbly sandy loam, gravelly fine sandy loam	SC-SM, SM	A-1, A-2-4, A-4	0	0-17	59-83	57-82	49-81	21-40	13-25	1-8
	1-25	Loam, sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM, SC-SM	A-4, A-2-4, A-1	0	0-17	59-83	57-82	50-81	21-39	13-23	1-7
	25-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
33F:												
Edneyville------	0-6	Gravelly fine sandy loam, cobbly sandy loam, gravelly loam	ML, SM, SC-SM, CL-ML	A-2-4, A-4	0	0-17	59-83	57-82	45-77	31-56	12-25	1-8
	6-29	Gravelly sandy loam, loam, fine sandy loam	ML, SC-SM, SM, CL-ML	A-4	0	0-9	67-100	66-100	54-92	37-67	13-23	1-7
	29-61	Loam, gravelly loamy sand, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	67-100	66-100	56-100	23-49	12-25	1-8
34F:												
Siloam----------	0-7	Loam, fine sandy loam	SM, SC, SC-SM	A-4	0	0-9	83-100	82-100	70-100	28-49	17-30	1-11
	7-18	Clay loam, gravelly loam, loam	SC, CL	A-6, A-7-6	0	0-8	69-100	68-100	55-100	42-82	30-48	11-25
	18-22	Bedrock			---	---	---	---	---	---	---	---
	22-80	Bedrock			---	---	---	---	---	---	---	---
Bluemount-------	0-4	Gravelly silt loam, gravelly loam, cobbly fine sandy loam	CL, SC-SM, CL-ML, SC	A-4, A-6	0	10-19	56-80	54-79	46-79	37-68	21-36	1-16
	4-14	Gravelly silt loam, gravelly clay loam, very cobbly clay loam, loam	SC, CL	A-6, A-7-6	0	0-28	42-100	39-100	34-100	29-92	28-44	9-22
	14-24	Loam, very cobbly clay loam, gravelly clay loam, gravelly silt loam	CL, SC	A-6, A-7-6	0	0-64	46-100	44-100	36-98	27-78	28-44	9-22
	24-80	Bedrock			---	---	---	---	---	---	---	---
35C:												
Thurmont--------	0-4	Loam, sandy loam, fine sandy loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4	0	0-8	83-100	83-100	73-100	34-56	16-30	3-11
	4-50	Clay loam, gravelly sandy clay loam, loam	CL, SC	A-6	0	0-9	68-100	66-100	49-96	36-76	23-39	7-16
	50-62	Sandy clay loam, clay loam, gravelly sandy loam	SC, CL	A-2-4, A-6	0	0-8	69-100	68-100	50-96	26-60	23-39	7-16
	62-90	Gravelly loamy sand, sandy clay loam, clay	SC-SM, SC, MH, CL, CL-ML	A-2-4, A-6	0	0-8	69-100	68-100	49-100	27-89	16-61	3-28
Urban land.												
Wintergreen-----	0-9	Clay loam, fine sandy loam, loam	CL-ML, SC, CL, SC-SM	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay loam, clay, gravelly clay loam	CH, MH, CL	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26

Table 16.—Engineering 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	
36B:												
Thurmont--------	0-4	Loam, sandy loam, fine sandy loam	CL-ML, SC-SM, CL, SC	A-2-4, A-4	0	0-8	83-100	83-100	73-100	34-56	16-30	3-11
	4-50	Gravelly sandy clay loam, loam, clay loam	SC, CL	A-6	0	0-9	68-100	66-100	49-96	36-76	23-39	7-16
	50-62	Sandy clay loam, clay loam, gravelly sandy loam	SC, CL	A-2-4, A-6	0	0-8	69-100	68-100	50-96	26-60	23-39	7-16
	62-90	Gravelly loamy sand, sandy clay loam, clay	MH, CL-ML, CL, SC-SM, SC	A-2-4, A-6	0	0-8	69-100	68-100	49-100	27-89	16-61	3-28
Wintergreen-----	0-9	Loam, fine sandy loam, clay loam	SC-SM, CL-ML, CL, SC	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay loam, gravelly clay loam, clay	CL, MH, CH	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
36C:												
Thurmont--------	0-4	Sandy loam, fine sandy loam, loam	CL-ML, SC, SC-SM, CL	A-2-4, A-4	0	0-8	83-100	83-100	73-100	34-56	16-30	3-11
	4-50	Clay loam, gravelly sandy clay loam, loam	SC, CL	A-6	0	0-9	68-100	66-100	49-96	36-76	23-39	7-16
	50-62	Gravelly sandy loam, sandy clay loam, clay loam	CL, SC	A-2-4, A-6	0	0-8	69-100	68-100	50-96	26-60	23-39	7-16
	62-90	Sandy clay loam, clay, gravelly loamy sand	MH, CL-ML, CL, SC-SM, SC	A-2-4, A-6	0	0-8	69-100	68-100	49-100	27-89	16-61	3-28
Wintergreen-----	0-9	Loam, fine sandy loam, clay loam	CL-ML, CL, SC, SC-SM	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay, gravelly clay loam, clay loam	CL, MH, CH	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
36D:												
Thurmont--------	0-4	Loam, sandy loam, fine sandy loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4	0	0-8	83-100	83-100	73-100	34-56	16-30	3-11
	4-50	Gravelly sandy clay loam, clay loam, loam	SC, CL	A-6	0	0-9	68-100	66-100	49-96	36-76	23-39	7-16
	50-62	Clay loam, sandy clay loam, gravelly sandy loam	CL, SC	A-2-4, A-6	0	0-8	69-100	68-100	50-96	26-60	23-39	7-16
	62-90	Sandy clay loam, gravelly loamy sand, clay	SC-SM, MH, CL-ML, CL, SC	A-2-4, A-6	0	0-8	69-100	68-100	49-100	27-89	16-61	3-28

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
36D:												
Wintergreen-----	0-9	Loam, fine sandy loam, clay loam	SC-SM, CL-ML, CL, SC	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Gravelly clay loam, clay, clay loam	CL, MH, CH	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
37E:												
Trimont---------	0-10	Loam, fine sandy loam	ML, SC-SM, CL-ML, SM	A-4	0	0-4	79-100	78-100	64-94	44-68	14-25	2-8
	10-29	Clay loam, channery sandy clay loam, loam	SC, CL	A-6, A-2-4	0	0-13	57-100	55-100	46-100	34-79	23-39	7-16
	29-80	Loam, fine sandy loam, channery sandy loam	SM, SC-SM	A-4, A-2-4, A-1	0	0-12	59-100	58-100	50-99	21-49	14-25	2-8
Porters---------	0-10	Sandy loam, loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0-13	85-100	84-100	70-93	49-68	16-25	3-8
	10-21	Fine sandy loam, channery fine sandy loam, loam	SC, CL, SC-SM, SM, CL-ML, ML	A-4	0-10	0-28	73-100	72-100	65-100	29-53	12-31	1-11
	21-43	Loam, fine sandy loam, channery loamy sand	CL-ML, SC-SM, SM, ML	A-2-4, A-4	0-10	0-28	73-100	72-100	58-100	21-51	12-25	1-8
	43-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
37F:												
Trimont---------	0-10	Loam, fine sandy loam	SC-SM, SM, CL-ML, ML	A-4	0	0-4	79-100	78-100	64-94	44-68	14-25	2-8
	10-29	Channery sandy clay loam, loam, clay loam	CL, SC	A-6, A-2-4	0	0-13	57-100	55-100	46-100	34-79	23-39	7-16
	29-80	Loam, fine sandy loam, channery sandy loam	SM, SC-SM	A-4, A-2-4, A-1	0	0-12	59-100	58-100	50-99	21-49	14-25	2-8
Porters---------	0-10	Loam, sandy loam, fine sandy loam	CL-ML, SC-SM	A-4	0	0-13	85-100	84-100	70-93	49-68	16-25	3-8
	10-21	Channery fine sandy loam, fine sandy loam, loam	SM, SC-SM, CL-ML, CL, ML, SC	A-4	0-10	0-28	73-100	72-100	65-100	29-53	12-31	1-11
	21-43	Channery loamy sand, fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0-10	0-28	73-100	72-100	58-100	21-51	12-25	1-8
	43-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
38C:												
Watauga---------	0-8	Fine sandy loam, loam	CL, CL-ML, ML, SC-SM, SM, SC	A-4	0	0-12	86-100	86-100	67-100	45-75	12-30	1-11
	8-30	Loam, sandy clay loam, clay loam	CL	A-6	0	0-13	86-100	85-100	70-99	53-79	23-39	7-16
	30-80	Channery loamy sand, loam, parachannery sandy loam	SC-SM, SM	A-2-4, A-4	0	0-20	76-100	76-100	52-84	23-46	12-25	1-8
Brownwood-------	0-6	Fine sandy loam, loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Sandy loam, fine sandy loam, cobbly fine sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
38D:												
Watauga---------	0-8	Fine sandy loam, loam	CL, CL-ML, ML, SC, SC-SM, SM	A-4	0	0-12	86-100	86-100	67-100	45-75	12-30	1-11
	8-30	Sandy clay loam, clay loam, loam	CL	A-6	0	0-13	86-100	85-100	70-99	53-79	23-39	7-16
	30-80	Channery loamy sand, loam, parachannery sandy loam	SC-SM, SM	A-2-4, A-4	0	0-20	76-100	76-100	52-84	23-46	12-25	1-8
Brownwood-------	0-6	Loam, fine sandy loam	SC-SM, SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Sandy loam, fine sandy loam, cobbly fine sandy loam, channery loam	SC-SM, SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
38E:												
Watauga---------	0-8	Loam, fine sandy loam	CL, CL-ML, ML, SC, SC-SM, SM	A-4	0	0-12	86-100	86-100	67-100	45-75	12-30	1-11
	8-30	Sandy clay loam, loam, clay loam	CL	A-6	0	0-13	86-100	85-100	70-99	53-79	23-39	7-16
	30-80	Loam, parachannery sandy loam, channery loamy sand	SC-SM, SM	A-2-4, A-4	0	0-20	76-100	76-100	52-84	23-46	12-25	1-8

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
38E:												
Brownwood-------	0-6	Loam, fine sandy loam	SM, SC-SM	A-4	0-6	0-15	88-100	88-100	75-100	30-49	12-25	1-8
	6-35	Sandy loam, fine sandy loam, cobbly fine sandy loam, channery loam	SM, SC-SM	A-2-4, A-4	0	0-46	82-100	82-100	70-99	28-48	12-23	1-7
	35-45	Bedrock			---	---	---	---	---	---	---	---
	45-80	Bedrock			---	---	---	---	---	---	---	---
39B:												
Wintergreen-----	0-9	Clay loam, loam, fine sandy loam	SC-SM, CL-ML, CL, SC	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay loam, gravelly clay loam, clay	MH, CH, CL	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
39C:												
Wintergreen-----	0-9	Fine sandy loam, loam, clay loam	SC-SM, CL-ML, CL, SC	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay loam, clay, gravelly clay loam	CH, MH, CL	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
39D:												
Wintergreen-----	0-9	Clay loam, fine sandy loam, loam	SC-SM, CL-ML, CL, SC	A-6, A-7-6	0	0-9	82-100	81-100	61-100	43-83	16-43	3-18
	9-80	Clay loam, clay, gravelly clay loam	CL, CH, MH	A-7	0	0-9	67-100	66-100	60-100	50-96	39-57	16-26
40C:												
Woolwine--------	0-2	Gravelly loam, fine sandy loam, loam	CL, CL-ML, SC, SM, SC-SM, ML	A-4	0	0-8	76-100	75-100	59-98	40-74	11-25	1-9
	2-28	Clay loam, gravelly clay loam, clay	CL	A-6, A-7-6	0	0-9	68-100	66-100	52-100	44-92	31-49	13-22
	28-42	Bedrock			---	---	---	---	---	---	---	---
	42-80	Bedrock			---	---	---	---	---	---	---	---
Fairview--------	0-9	Sandy loam, loam, fine sandy loam	SM, SC-SM	A-2-4, A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	9-23	Clay, clay loam, gravelly clay loam	CL	A-6, A-7-6	0	0-9	75-100	74-100	58-100	49-92	31-49	13-22
	23-29	Gravelly fine sandy loam, sandy clay loam, clay loam	SC-SM, SM, SC, ML, CL-ML, CL	A-4, A-6	0	0-9	74-100	73-100	53-100	38-82	13-34	2-14
	29-80	Sandy loam, fine sandy loam, gravelly loam	SC-SM, SM, SC, CL-ML, ML, CL	A-2-4, A-4	0	0-9	74-100	73-100	62-100	28-55	13-25	2-9

Table 16.—Engineering 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	
40C:												
Westfield-------	0-4	Loam, fine sandy loam	SC-SM, SM, SC, ML, CL-ML, CL	A-4	0	0-9	83-100	82-100	63-99	43-74	9-25	1-9
	4-35	Clay, gravelly sandy clay, clay loam	SC, CL	A-6, A-7-6, A-7	0	0-9	73-100	72-100	61-100	49-88	31-45	13-21
	35-40	Clay loam, loam, fine sandy loam, gravelly sandy loam	SC-SM, ML, SC, SM, CL-ML, CL	A-6, A-4	0	0	91-100	91-100	65-100	45-84	9-34	1-14
	40-48	Clay loam, loam, gravelly sandy loam, fine sandy loam	SM, CL-ML, SC-SM, CL, ML, SC	A-2-4, A-4, A-6	0	0	91-100	91-100	74-100	31-64	9-31	1-13
	48-71	Bedrock			---	---	---	---	---	---	---	---
	71-80	Bedrock			---	---	---	---	---	---	---	---
40D:												
Woolwine--------	0-2	Gravelly loam, loam, fine sandy loam	SC-SM, SM, SC, CL-ML, CL, ML	A-4	0	0-8	76-100	75-100	59-98	40-74	11-25	1-9
	2-28	Gravelly clay loam, clay loam, clay	CL	A-6, A-7-6	0	0-9	68-100	66-100	52-100	44-92	31-49	13-22
	28-42	Bedrock			---	---	---	---	---	---	---	---
	42-80	Bedrock			---	---	---	---	---	---	---	---
Fairview--------	0-9	Loam, sandy loam, fine sandy loam	SM, SC-SM	A-2-4, A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	9-23	Clay, clay loam, gravelly clay loam	CL	A-6, A-7-6	0	0-9	75-100	74-100	58-100	49-92	31-49	13-22
	23-29	Clay loam, sandy clay loam, gravelly fine sandy loam	SM, CL, CL-ML, ML, SC-SM, SC	A-4, A-6	0	0-9	74-100	73-100	53-100	38-82	13-34	2-14
	29-80	Gravelly loam, fine sandy loam, sandy loam	SM, SC-SM, CL, ML, CL-ML, SC	A-2-4, A-4	0	0-9	74-100	73-100	62-100	28-55	13-25	2-9
Westfield-------	0-4	Loam, fine sandy loam	SC, ML, CL-ML, CL, SC-SM, SM	A-4	0	0-9	83-100	82-100	63-99	43-74	9-25	1-9
	4-35	Clay loam, gravelly sandy clay, clay	SC, CL	A-6, A-7-6, A-7	0	0-9	73-100	72-100	61-100	49-88	31-45	13-21
	35-40	Loam, gravelly sandy loam, clay loam, fine sandy loam	SC-SM, CL, CL-ML, ML, SC, SM	A-6, A-4	0	0	91-100	91-100	65-100	45-84	9-34	1-14
	40-48	Clay loam, gravelly sandy loam, loam, fine sandy loam	ML, SC, SM, CL, SC-SM, CL-ML	A-2-4, A-4, A-6	0	0	91-100	91-100	74-100	31-64	9-31	1-13
	48-71	Bedrock			---	---	---	---	---	---	---	---
	71-80	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering 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	
40E:												
Woolwine--------	0-2	Gravelly loam, loam, fine sandy loam	SC-SM, SM, SC, CL-ML, CL, ML	A-4	0	0-8	76-100	75-100	59-98	40-74	11-25	1-9
	2-28	Gravelly clay loam, clay, clay loam	CL	A-6, A-7-6	0	0-9	68-100	66-100	52-100	44-92	31-49	13-22
	28-42	Bedrock			---	---	---	---	---	---	---	---
	42-80	Bedrock			---	---	---	---	---	---	---	---
Fairview--------	0-9	Sandy loam, fine sandy loam, loam	SM, SC-SM	A-2-4, A-4	0	0-9	83-100	82-100	72-98	32-49	13-20	2-6
	9-23	Gravelly clay loam, clay loam, clay	CL	A-6, A-7-6	0	0-9	75-100	74-100	58-100	49-92	31-49	13-22
	23-29	Clay loam, sandy clay loam, gravelly fine sandy loam	SM, SC, ML, CL-ML, SC-SM, CL	A-4, A-6	0	0-9	74-100	73-100	53-100	38-82	13-34	2-14
	29-80	Gravelly loam, fine sandy loam, sandy loam	CL-ML, ML, CL, SC-SM, SM, SC	A-2-4, A-4	0	0-9	74-100	73-100	62-100	28-55	13-25	2-9
Westfield-------	0-4	Fine sandy loam, loam	CL-ML, ML, SM, SC-SM, SC, CL	A-4	0	0-9	83-100	82-100	63-99	43-74	9-25	1-9
	4-35	Clay, gravelly sandy clay, clay loam	CL, SC	A-6, A-7-6, A-7	0	0-9	73-100	72-100	61-100	49-88	31-45	13-21
	35-40	Loam, fine sandy loam, gravelly sandy loam, clay loam	ML, SC, CL, SM, SC-SM, CL-ML	A-6, A-4	0	0	91-100	91-100	65-100	45-84	9-34	1-14
	40-48	Gravelly sandy loam, fine sandy loam, loam, clay loam	CL-ML, SC-SM, CL, SC, SM, ML	A-2-4, A-4, A-6	0	0	91-100	91-100	74-100	31-64	9-31	1-13
	48-71	Bedrock			---	---	---	---	---	---	---	---
	71-80	Bedrock			---	---	---	---	---	---	---	---
W.												
Water												

Table 17.—Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
1C:														
Ashe	0-1	32-85	0-50	7-20	1.35-1.60	14.00-42.00	0.10-0.13	0.0-2.9	1.0-5.0	.15	.24	2	8	0
	1-25	32-85	0-50	7-18	1.35-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	25-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Edneyville	0-6	32-85	0-50	5-20	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.15	.24	5	8	0
	6-29	32-85	0-50	7-18	1.40-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.17	.24			
	29-61	32-91	0-50	5-20	1.40-1.60	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24			
Peaks	0-5	24-85	0-50	4-16	1.20-1.40	42.00-141.00	0.08-0.12	0.0-2.9	1.0-4.0	.15	.24	2	8	0
	5-34	24-85	0-50	5-18	1.20-1.40	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
	34-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
2D:														
Ashe	0-1	32-85	0-50	7-20	1.35-1.60	14.00-42.00	0.10-0.13	0.0-2.9	1.0-5.0	.15	.24	2	8	0
	1-25	32-85	0-50	7-18	1.35-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	25-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Peaks	0-5	24-85	0-50	4-16	1.20-1.40	42.00-141.00	0.08-0.12	0.0-2.9	1.0-4.0	.15	.24	2	8	0
	5-34	24-85	0-50	5-18	1.20-1.40	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
	34-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Edneyville	0-6	32-85	0-50	5-20	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.15	.24	5	8	0
	6-29	32-85	0-50	7-18	1.40-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.17	.24			
	29-61	32-91	0-50	5-20	1.40-1.60	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24			
3D:														
Bluemount	0-4	15-85	0-80	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	4-14	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	14-24	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	24-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Redbrush	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Spriggs	0-6	24-85	0-50	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.17	.32	3	8	0
	6-38	20-52	15-50	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	38-52	---	---	---	---	0.07-0.42	---	---	---	---	---			
	52-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
4E:														
Bluemount------------	0-4	15-85	0-80	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	4-14	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	14-24	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	24-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Spriggs--------------	0-6	24-85	0-50	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.17	.32	3	8	0
	6-38	20-52	15-50	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	38-52	---	---	---	---	0.07-0.42	---	---	---	---	---			
	52-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
5C:														
Bluemount------------	0-4	15-85	0-80	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	4-14	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	14-24	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	24-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Spriggs--------------	0-6	24-85	0-50	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.17	.32	3	8	0
	6-38	20-52	15-50	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	38-52	---	---	---	---	0.07-0.42	---	---	---	---	---			
	52-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Redbrush-------------	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
6C:														
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Chandler-------------	0-4	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.12-0.18	0.0-2.9	1.0-8.0	.20	.20	5	8	0
	4-22	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
	22-80	32-91	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
6D:														
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Chandler-------------	0-4	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.12-0.18	0.0-2.9	1.0-8.0	.20	.20	5	8	0
	4-22	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
	22-80	32-91	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
6E:														
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Chandler-------------	0-4	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.12-0.18	0.0-2.9	1.0-8.0	.20	.20	5	8	0
	4-22	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
	22-80	32-91	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
6F:														
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Chandler-------------	0-4	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.12-0.18	0.0-2.9	1.0-8.0	.20	.20	5	8	0
	4-22	32-85	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
	22-80	32-91	0-50	5-18	1.30-1.50	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.32	.32			
7B:														
Clifford-------------	0-7	24-85	0-50	10-20	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	7-54	0-45	0-50	27-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	54-62	20-80	0-50	10-40	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	62-82	20-85	0-50	10-40	1.20-1.35	4.00-14.00	0.08-0.18	0.0-2.9	0.0-0.5	.17	.17			
7C:														
Clifford-------------	0-7	24-85	0-50	10-20	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	7-54	0-45	0-50	27-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	54-62	20-80	0-50	10-40	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	62-82	20-85	0-50	10-40	1.20-1.35	4.00-14.00	0.08-0.18	0.0-2.9	0.0-0.5	.17	.17			
7D:														
Clifford-------------	0-7	24-85	0-50	10-20	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	7-54	0-45	0-50	27-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	54-62	20-80	0-50	10-40	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	62-82	20-85	0-50	10-40	1.20-1.35	4.00-14.00	0.08-0.18	0.0-2.9	0.0-0.5	.17	.17			
8E:														
Clifford-------------	0-7	24-85	0-50	10-20	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	7-54	0-45	0-50	27-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	54-62	20-80	0-50	10-40	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	62-82	20-85	0-50	10-40	1.20-1.35	4.00-14.00	0.08-0.18	0.0-2.9	0.0-0.5	.17	.17			
Hickoryknob----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.24	.24	2	5	56
	4-23	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	23-36	---	---	---	---	0.07-0.42	---	---	---	---	---			
	36-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
9C:														
Clifford-------------	0-7	24-85	0-50	10-20	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	7-54	0-45	0-50	27-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	54-62	20-80	0-50	10-40	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	62-82	20-85	0-50	10-40	1.20-1.35	4.00-14.00	0.08-0.18	0.0-2.9	0.0-0.5	.17	.17			
Urban land.														
10B:														
Colescreek-----------	0-9	24-85	0-50	10-20	1.20-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.5-5.0	.24	.24	4	3	86
	9-56	0-100	0-100	18-50	1.40-1.60	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28			
	56-80	0-100	0-100	2-27	1.10-1.35	4.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.15			
Delanco--------------	0-10	24-82	0-50	5-20	1.10-1.30	4.23-14.11	0.14-0.24	0.0-2.9	2.0-4.0	.24	.24	4	5	56
	10-37	20-80	0-50	18-35	1.40-1.60	1.41-4.23	0.18-0.22	3.0-5.9	0.0-0.5	.32	.32			
	37-57	0-100	0-100	5-40	1.50-1.70	4.23-14.11	0.10-0.22	0.0-2.9	0.0-0.5	.28	.32			
	57-80	0-100	0-100	2-40	1.50-1.70	4.23-14.11	0.10-0.22	0.0-2.9	0.0-0.5	.28	.32			
11A:														
Comus----------------	0-12	32-85	0-50	5-18	1.20-1.40	4.23-14.11	0.13-0.21	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	12-47	32-85	0-50	5-18	1.20-1.40	4.23-14.11	0.13-0.21	0.0-2.9	1.0-2.0	.43	.43			
	47-62	32-91	0-50	5-27	1.30-1.60	4.23-42.34	0.07-0.21	0.0-2.9	0.0-0.5	.28	.32			
Maggodee-------------	0-13	15-85	0-80	5-18	1.20-1.40	14.00-42.00	0.13-0.21	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	13-48	15-85	0-80	5-18	1.20-1.40	14.00-42.00	0.13-0.21	0.0-2.9	1.0-2.0	.43	.43			
	48-60	32-91	0-50	5-18	1.30-1.60	14.00-42.00	0.07-0.21	0.0-2.9	0.0-0.5	.28	.32			
Elsinboro------------	0-11	24-82	0-50	8-18	1.30-1.40	4.00-14.00	0.10-0.18	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	11-38	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	38-60	24-82	0-50	8-27	1.40-1.60	4.00-42.00	0.06-0.14	0.0-2.9	0.0-0.5	.17	.20			
12C:														
Cowee----------------	0-3	24-82	0-50	8-20	1.25-1.35	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.15	.28	3	5	56
	3-18	20-80	0-50	18-35	1.55-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	18-30	24-82	0-50	5-35	1.45-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	30-43	---	---	---	---	0.07-0.42	---	---	---	---	---			
	43-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Cliffield------------	0-3	24-85	0-50	7-20	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	1.0-5.0	.10	.24	2	3	86
	3-6	24-85	0-50	10-27	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	0.5-1.0	.15	.24			
	6-23	20-80	0-50	18-35	1.20-1.30	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.10	.28			
	23-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Evard----------------	0-4	24-82	0-50	5-25	1.30-1.60	14.00-42.00	0.08-0.14	0.0-2.9	1.0-5.0	.15	.24	5	3	86
	4-33	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.0-0.5	.24	.28			
	33-72	0-100	0-100	5-20	1.20-1.40	4.00-14.00	0.05-0.17	0.0-2.9	0.0-0.5	.24	.32			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
12D:														
Cowee----------------	0-3	24-82	0-50	8-20	1.25-1.35	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.15	.28	3	5	56
	3-18	20-80	0-50	18-35	1.55-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	18-30	24-82	0-50	5-35	1.45-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	30-43	---	---	---	---	0.07-0.42	---	---	---	---	---			
	43-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Cliffield------------	0-3	24-85	0-50	7-20	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	1.0-5.0	.10	.24	2	3	86
	3-6	24-85	0-50	10-27	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	0.5-1.0	.15	.24			
	6-23	20-80	0-50	18-35	1.20-1.30	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.10	.28			
	23-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Evard----------------	0-4	24-82	0-50	5-25	1.30-1.60	14.00-42.00	0.08-0.14	0.0-2.9	1.0-5.0	.15	.24	5	3	86
	4-33	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.0-0.5	.24	.28			
	33-72	0-100	0-100	5-20	1.20-1.40	4.00-14.00	0.05-0.17	0.0-2.9	0.0-0.5	.24	.32			
12E:														
Cowee----------------	0-3	24-82	0-50	8-20	1.25-1.35	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.15	.28	3	5	56
	3-18	20-80	0-50	18-35	1.55-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	18-30	24-82	0-50	5-35	1.45-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	30-43	---	---	---	---	0.07-0.42	---	---	---	---	---			
	43-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Cliffield------------	0-3	24-85	0-50	7-20	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	1.0-5.0	.10	.24	2	3	86
	3-6	24-85	0-50	10-27	1.20-1.30	14.00-42.00	0.06-0.12	0.0-2.9	0.5-1.0	.15	.24			
	6-23	20-80	0-50	18-35	1.20-1.30	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.10	.28			
	23-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Evard----------------	0-4	24-82	0-50	5-25	1.30-1.60	14.00-42.00	0.08-0.14	0.0-2.9	1.0-5.0	.15	.24	5	3	86
	4-33	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.0-0.5	.24	.28			
	33-72	0-100	0-100	5-20	1.20-1.40	4.00-14.00	0.05-0.17	0.0-2.9	0.0-0.5	.24	.32			
13D:														
Cullasaja------------	0-7	24-85	0-50	5-25	0.50-1.20	14.00-42.00	0.07-0.10	0.0-2.9	5.0-15	.10	.20	5	8	0
	7-23	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
	23-60	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
Tuckasegee-----------	0-17	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.11-0.18	0.0-2.9	3.0-8.0	.10	.20	5	8	0
	17-60	24-82	0-50	18-35	1.30-1.60	4.00-42.00	0.11-0.21	0.0-2.9	0.5-2.0	.20	.24			
13E:														
Cullasaja------------	0-7	24-85	0-50	5-25	0.50-1.20	14.00-42.00	0.07-0.10	0.0-2.9	5.0-15	.10	.20	5	8	0
	7-23	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
	23-60	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
Tuckasegee-----------	0-17	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.11-0.18	0.0-2.9	3.0-8.0	.10	.20	5	8	0
	17-60	24-82	0-50	18-35	1.30-1.60	4.00-42.00	0.11-0.21	0.0-2.9	0.5-2.0	.20	.24			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
14C:														
Cullasaja------------	0-7	24-85	0-50	5-25	0.50-1.20	14.00-42.00	0.07-0.10	0.0-2.9	5.0-15	.10	.20	5	8	0
	7-23	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
	23-60	24-85	0-50	5-18	1.00-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.05	.17			
Tuckasegee-----------	0-17	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.11-0.18	0.0-2.9	3.0-8.0	.10	.20	5	8	0
	17-60	24-82	0-50	18-35	1.30-1.60	4.00-42.00	0.11-0.21	0.0-2.9	0.5-2.0	.20	.24			
Dellwood-------------	0-8	44-85	0-49	5-15	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	3.0-8.0	.10	.17	3	8	0
	8-18	44-85	0-49	5-15	1.40-1.60	14.00-42.00	0.02-0.05	0.0-2.9	0.5-2.0	.05	.10			
	18-60	70-100	0-29	3-10	1.40-1.60	42.00-141.00	0.02-0.05	0.0-2.9	0.0-1.0	.05	.10			
15E:														
Drapermill-----------	0-3	15-82	0-80	5-18	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.20	.37	2	5	56
	3-35	15-52	15-80	18-35	1.30-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.24			
	35-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
16C:														
Edneytown------------	0-4	24-82	0-50	5-15	1.40-1.60	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.15	.28	5	8	0
	4-52	20-80	0-50	20-35	1.30-1.40	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.28			
	52-65	24-82	0-50	5-15	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.28			
Sauratown------------	0-3	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.15	.28	2	8	0
	3-26	20-80	0-50	18-35	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	26-33	---	---	---	---	0.07-0.42	---	---	---	---	---			
	33-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
16D:														
Edneytown------------	0-4	24-82	0-50	5-15	1.40-1.60	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.15	.28	5	8	0
	4-52	20-80	0-50	20-35	1.30-1.40	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.28			
	52-65	24-82	0-50	5-15	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.28			
Sauratown------------	0-3	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.15	.28	2	8	0
	3-26	20-80	0-50	18-35	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	26-33	---	---	---	---	0.07-0.42	---	---	---	---	---			
	33-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
16E:														
Edneytown------------	0-4	24-82	0-50	5-15	1.40-1.60	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.15	.28	5	8	0
	4-52	20-80	0-50	20-35	1.30-1.40	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.28			
	52-65	24-82	0-50	5-15	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.28			
Sauratown------------	0-3	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.15	.28	2	8	0
	3-26	20-80	0-50	18-35	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	26-33	---	---	---	---	0.07-0.42	---	---	---	---	---			
	33-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
16F:														
Edneytown------------	0-4	24-82	0-50	5-15	1.40-1.60	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.15	.28	5	8	0
	4-52	20-80	0-50	20-35	1.30-1.40	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.28			
	52-65	24-82	0-50	5-15	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.28			
Sauratown------------	0-3	24-82	0-50	5-20	1.20-1.40	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.15	.28	2	8	0
	3-26	20-80	0-50	18-35	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	26-33	---	---	---	---	0.07-0.42	---	---	---	---	---			
	33-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
17B:														
Elsinboro------------	0-11	24-82	0-50	8-18	1.30-1.40	4.00-14.00	0.10-0.18	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	11-38	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	38-60	24-82	0-50	8-27	1.40-1.60	4.00-42.00	0.06-0.14	0.0-2.9	0.0-0.5	.17	.20			
Colescreek-----------	0-9	24-85	0-50	10-20	1.20-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.5-5.0	.24	.24	4	3	86
	9-56	0-100	0-100	18-50	1.40-1.60	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28			
	56-80	0-100	0-100	2-27	1.10-1.35	4.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.15			
18E:														
Goblintown-----------	0-8	0-85	0-80	10-27	1.20-1.40	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	3	5	56
	8-29	0-45	0-60	35-55	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	29-36	0-85	0-80	15-40	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	36-62	---	---	---	---	0.07-0.42	---	---	---	---	---			
Drapermill-----------	0-3	15-82	0-80	5-18	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.20	.37	2	5	56
	3-35	15-52	15-80	18-35	1.30-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.24			
	35-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Penhook--------------	0-6	24-52	28-50	7-27	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	6-43	0-45	0-60	35-60	1.20-1.40	4.00-14.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	43-63	0-52	28-80	5-27	1.20-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
19C:														
Hayesville-----------	0-9	24-85	0-50	10-25	1.35-1.60	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	9-48	0-45	0-45	35-60	1.20-1.35	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.28	.28			
	48-54	20-80	0-45	20-40	1.30-1.40	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.5	.28	.28			
	54-61	24-85	0-50	5-25	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
19D:														
Hayesville-----------	0-9	24-85	0-50	10-25	1.35-1.60	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	9-48	0-45	0-45	35-60	1.20-1.35	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.28	.28			
	48-54	20-80	0-45	20-40	1.30-1.40	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.5	.28	.28			
	54-61	24-85	0-50	5-25	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
20E:														
Hayesville-----------	0-9	24-85	0-50	10-25	1.35-1.60	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	9-48	0-45	0-45	35-60	1.20-1.35	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.28	.28			
	48-54	20-80	0-45	20-40	1.30-1.40	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.5	.28	.28			
	54-61	24-85	0-50	5-25	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
21F:														
Hickoryknob----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.24	.24	2	5	56
	4-23	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	23-36	---	---	---	---	0.07-0.42	---	---	---	---	---			
	36-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Rhodhiss-------------	0-5	24-82	0-50	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.20	.32	5	5	56
	5-38	20-52	15-50	18-35	1.40-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	38-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.20	.24			
22C:														
Hickoryknob----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.24	.24	2	5	56
	4-23	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	23-36	---	---	---	---	0.07-0.42	---	---	---	---	---			
	36-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Rhodhiss-------------	0-5	24-82	0-50	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.20	.32	5	5	56
	5-38	20-52	15-50	18-35	1.40-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	38-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.20	.24			
Stott Knob-----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.20	.28	3	5	56
	4-19	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	19-31	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	31-38	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	38-80	---	---	---	---	0.07-0.42	---	---	---	---	---			
22D:														
Hickoryknob----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.24	.24	2	5	56
	4-23	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	23-36	---	---	---	---	0.07-0.42	---	---	---	---	---			
	36-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Rhodhiss-------------	0-5	24-82	0-50	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.20	.32	5	5	56
	5-38	20-52	15-50	18-35	1.40-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	38-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.20	.24			
Stott Knob-----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.20	.28	3	5	56
	4-19	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	19-31	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	31-38	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	38-80	---	---	---	---	0.07-0.42	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
22E:														
Hickoryknob----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.24	.24	2	5	56
	4-23	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	23-36	---	---	---	---	0.07-0.42	---	---	---	---	---			
	36-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Rhodhiss-------------	0-5	24-82	0-50	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.20	.32	5	5	56
	5-38	20-52	15-50	18-35	1.40-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	38-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.06-0.12	0.0-2.9	0.0-0.5	.20	.24			
Stott Knob-----------	0-4	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-5.0	.20	.28	3	5	56
	4-19	20-52	15-50	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	19-31	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	31-38	24-82	0-50	8-20	1.25-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.20	.28			
	38-80	---	---	---	---	0.07-0.42	---	---	---	---	---			
23A:														
Iotla----------------	0-3	32-85	0-50	12-18	1.50-1.70	14.00-42.00	0.10-0.15	0.0-2.9	2.0-5.0	.17	.17	4	5	86
	3-31	32-85	0-50	12-23	1.50-1.70	14.00-42.00	0.10-0.15	0.0-2.9	0.0-1.0	.20	.20			
	31-43	32-91	0-50	12-23	1.50-1.70	14.00-42.00	0.10-0.15	0.0-2.9	0.0-1.0	.20	.20			
	43-80	32-91	0-50	5-20	1.10-1.30	14.00-42.00	0.10-0.15	0.0-2.9	0.0-1.0	.20	.20			
Maggodee-------------	0-13	15-85	0-80	5-18	1.20-1.40	14.00-42.00	0.13-0.21	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	13-48	15-85	0-80	5-18	1.20-1.40	14.00-42.00	0.13-0.21	0.0-2.9	1.0-2.0	.43	.43			
	48-60	32-91	0-50	5-18	1.30-1.60	14.00-42.00	0.07-0.21	0.0-2.9	0.0-0.5	.28	.32			
Colescreek-----------	0-9	24-85	0-50	10-20	1.20-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.5-5.0	.24	.24	4	3	86
	9-56	0-100	0-100	18-50	1.40-1.60	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28			
	56-80	0-100	0-100	2-27	1.10-1.35	4.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.15			
24B:														
Jackland-------------	0-6	0-52	28-80	15-27	1.00-1.30	4.00-14.00	0.16-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-48	0-45	0-60	35-60	1.20-1.50	0.01-0.42	0.08-0.12	9.0-25.0	0.0-0.5	.10	.10			
	48-63	0-85	0-49	15-50	1.20-1.50	0.42-4.00	0.10-0.14	0.0-2.9	0.0-0.5	.15	.15			
	63-80	20-85	0-50	10-40	1.20-1.50	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.15	.15			
Mirerock-------------	0-6	0-85	0-80	10-27	1.00-1.30	4.00-14.00	0.18-0.22	0.0-2.9	1.0-3.0	.15	.28	3	5	56
	6-17	0-52	28-80	10-27	1.00-1.30	4.00-14.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32			
	17-35	0-45	0-45	35-60	1.20-1.50	1.40-4.00	0.08-0.12	6.0-8.9	0.0-0.5	.10	.10			
	35-49	---	---	---	---	0.07-0.42	---	---	---	---	---			
	49-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Redbrush-------------	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
24C:														
Jackland-------------	0-6	0-52	28-80	15-27	1.00-1.30	4.00-14.00	0.16-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-48	0-45	0-60	35-60	1.20-1.50	0.01-0.42	0.08-0.12	9.0-25.0	0.0-0.5	.10	.10			
	48-63	0-85	0-49	15-50	1.20-1.50	0.42-4.00	0.10-0.14	0.0-2.9	0.0-0.5	.15	.15			
	63-80	20-85	0-50	10-40	1.20-1.50	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.15	.15			
Mirerock-------------	0-6	0-85	0-80	10-27	1.00-1.30	4.00-14.00	0.18-0.22	0.0-2.9	1.0-3.0	.15	.28	3	5	56
	6-17	0-52	28-80	10-27	1.00-1.30	4.00-14.00	0.18-0.22	0.0-2.9	0.5-1.0	.32	.32			
	17-35	0-45	0-45	35-60	1.20-1.50	1.40-4.00	0.08-0.12	6.0-8.9	0.0-0.5	.10	.10			
	35-49	---	---	---	---	0.07-0.42	---	---	---	---	---			
	49-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Redbrush-------------	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
25C:														
Littlejoe------------	0-8	24-85	0-50	12-27	1.10-1.40	4.00-14.00	0.16-0.20	0.0-2.9	0.5-2.0	.32	.32	4	5	56
	8-45	0-45	0-60	27-60	1.40-1.60	1.40-14.00	0.10-0.19	3.0-5.9	0.0-0.5	.28	.28			
	45-59	---	---	---	---	0.07-0.42	---	---	0.0-0.0	---	---			
	59-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Penhook--------------	0-6	24-52	28-50	7-27	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	6-43	0-45	0-60	35-60	1.20-1.40	4.00-14.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	43-63	0-52	28-80	5-27	1.20-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
Goblintown-----------	0-8	0-85	0-80	10-27	1.20-1.40	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	3	5	56
	8-29	0-45	0-60	35-55	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	29-36	0-85	0-80	15-40	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	36-62	---	---	---	---	0.07-0.42	---	---	---	---	---			
25D:														
Littlejoe------------	0-8	24-85	0-50	12-27	1.10-1.40	4.00-14.00	0.16-0.20	0.0-2.9	0.5-2.0	.32	.32	4	5	56
	8-45	0-45	0-60	27-60	1.40-1.60	1.40-14.00	0.10-0.19	3.0-5.9	0.0-0.5	.28	.28			
	45-59	---	---	---	---	0.07-0.42	---	---	0.0-0.0	---	---			
	59-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Penhook--------------	0-6	24-52	28-50	7-27	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	6-43	0-45	0-60	35-60	1.20-1.40	4.00-14.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	43-63	0-52	28-80	5-27	1.20-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
Goblintown-----------	0-8	0-85	0-80	10-27	1.20-1.40	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	3	5	56
	8-29	0-45	0-60	35-55	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	29-36	0-85	0-80	15-40	1.20-1.40	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	36-62	---	---	---	---	0.07-0.42	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
26C:														
Littlejoe------------	0-8	24-85	0-50	12-27	1.10-1.40	4.00-14.00	0.16-0.20	0.0-2.9	0.5-2.0	.32	.32	4	5	56
	8-45	0-45	0-60	27-60	1.40-1.60	1.40-14.00	0.10-0.19	3.0-5.9	0.0-0.5	.28	.28			
	45-59	---	---	---	---	0.07-0.42	---	---	0.0-0.0	---	---			
	59-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Strawfield-----------	0-2	0-85	0-80	10-40	1.40-1.60	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.20	.20	2	6	48
	2-9	0-52	15-80	20-40	1.40-1.60	4.00-14.00	0.14-0.19	3.0-5.9	0.5-1.0	.24	.28			
	9-22	0-45	0-60	35-60	1.30-1.50	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	22-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Penhook--------------	0-6	24-52	28-50	7-27	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	6-43	0-45	0-60	35-60	1.20-1.40	4.00-14.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	43-63	0-52	28-80	5-27	1.20-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
26D:														
Littlejoe------------	0-8	24-85	0-50	12-27	1.10-1.40	4.00-14.00	0.16-0.20	0.0-2.9	0.5-2.0	.32	.32	4	5	56
	8-45	0-45	0-60	27-60	1.40-1.60	1.40-14.00	0.10-0.19	3.0-5.9	0.0-0.5	.28	.28			
	45-59	---	---	---	---	0.07-0.42	---	---	0.0-0.0	---	---			
	59-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Strawfield-----------	0-2	0-85	0-80	10-40	1.40-1.60	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.20	.20	2	6	48
	2-9	0-52	15-80	20-40	1.40-1.60	4.00-14.00	0.14-0.19	3.0-5.9	0.5-1.0	.24	.28			
	9-22	0-45	0-60	35-60	1.30-1.50	4.00-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	22-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Penhook--------------	0-6	24-52	28-50	7-27	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	6-43	0-45	0-60	35-60	1.20-1.40	4.00-14.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	43-63	0-52	28-80	5-27	1.20-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
27B:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
27C:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
27D:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
27E:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
28C:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
Orenda---------------	0-6	24-85	0-50	10-27	1.25-1.35	4.00-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	6-25	0-45	0-45	35-60	1.25-1.45	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.28			
	25-62	0-85	0-80	5-27	1.25-1.35	4.00-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
Redbrush-------------	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
28D:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
Orenda---------------	0-6	24-85	0-50	10-27	1.25-1.35	4.00-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	6-25	0-45	0-45	35-60	1.25-1.45	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.28			
	25-62	0-85	0-80	5-27	1.25-1.35	4.00-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
Redbrush-------------	0-5	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.08-0.16	0.0-2.9	0.5-2.0	.32	.32	2	5	56
	5-12	0-52	28-80	7-27	1.25-1.65	4.00-14.00	0.10-0.16	6.0-8.9	0.5-1.0	.24	.28			
	12-23	0-45	0-45	35-60	1.25-1.50	0.01-4.00	0.10-0.16	6.0-8.9	0.0-0.5	.24	.28			
	23-30	0-85	0-80	15-50	1.25-1.65	0.01-4.00	0.08-0.15	6.0-8.9	0.0-0.5	.32	.43			
	30-38	---	---	---	---	0.07-0.42	---	---	---	---	---			
	38-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
29C:														
Minnieville----------	0-4	20-52	15-50	7-40	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.5-2.0	.32	.32	5	6	48
	4-53	0-45	0-45	35-70	1.25-1.35	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	53-81	20-45	15-45	27-40	1.25-1.45	4.00-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
Urban land.														

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
30C:														
Myersville-----------	0-4	15-52	28-80	5-20	1.20-1.50	14.00-42.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-25	15-52	15-73	18-35	1.20-1.50	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	25-58	15-85	0-80	5-27	1.20-1.50	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
	58-70	---	---	---	---	0.07-0.42	---	---	---	---	---			
	70-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
30D:														
Myersville-----------	0-4	15-52	28-80	5-20	1.20-1.50	14.00-42.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-25	15-52	15-73	18-35	1.20-1.50	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	25-58	15-85	0-80	5-27	1.20-1.50	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
	58-70	---	---	---	---	0.07-0.42	---	---	---	---	---			
	70-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
31E:														
Myersville-----------	0-4	15-52	28-80	5-20	1.20-1.50	14.00-42.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-25	15-52	15-73	18-35	1.20-1.50	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	25-58	15-85	0-80	5-27	1.20-1.50	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
	58-70	---	---	---	---	0.07-0.42	---	---	---	---	---			
	70-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Walnut---------------	0-4	32-85	0-50	5-20	1.40-1.60	14.00-42.00	0.12-0.18	0.0-2.9	1.0-5.0	.24	.24	3	8	0
	4-25	32-85	0-50	5-20	1.40-1.80	14.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
	25-41	---	---	---	---	0.07-0.42	---	---	---	---	---			
	41-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
32F:														
Myersville-----------	0-4	15-52	28-80	5-20	1.20-1.50	14.00-42.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-25	15-52	15-73	18-35	1.20-1.50	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	25-58	15-85	0-80	5-27	1.20-1.50	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.32	.37			
	58-70	---	---	---	---	0.07-0.42	---	---	---	---	---			
	70-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Walnut---------------	0-4	32-85	0-50	5-20	1.40-1.60	14.00-42.00	0.12-0.18	0.0-2.9	1.0-5.0	.24	.24	3	8	0
	4-25	32-85	0-50	5-20	1.40-1.80	14.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
	25-41	---	---	---	---	0.07-0.42	---	---	---	---	---			
	41-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
33E:														
Peaks----------------	0-5	24-85	0-50	4-16	1.20-1.40	42.00-141.00	0.08-0.12	0.0-2.9	1.0-4.0	.15	.24	2	8	0
	5-34	24-85	0-50	5-18	1.20-1.40	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
	34-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Ashe-----------------	0-1	32-85	0-50	7-20	1.35-1.60	14.00-42.00	0.10-0.13	0.0-2.9	1.0-5.0	.15	.24	2	8	0
	1-25	32-85	0-50	7-18	1.35-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	25-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
33E:														
Edneyville-----------	0-6	32-85	0-50	5-20	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.15	.24	5	8	0
	6-29	32-85	0-50	7-18	1.40-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.17	.24			
	29-61	32-91	0-50	5-20	1.40-1.60	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24			
33F:														
Peaks----------------	0-5	24-85	0-50	4-16	1.20-1.40	42.00-141.00	0.08-0.12	0.0-2.9	1.0-4.0	.15	.24	2	8	0
	5-34	24-85	0-50	5-18	1.20-1.40	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
	34-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Ashe-----------------	0-1	32-85	0-50	7-20	1.35-1.60	14.00-42.00	0.10-0.13	0.0-2.9	1.0-5.0	.15	.24	2	8	0
	1-25	32-85	0-50	7-18	1.35-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	25-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Edneyville-----------	0-6	32-85	0-50	5-20	1.35-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.15	.24	5	8	0
	6-29	32-85	0-50	7-18	1.40-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.17	.24			
	29-61	32-91	0-50	5-20	1.40-1.60	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24			
34F:														
Siloam---------------	0-7	24-85	0-50	5-20	1.30-1.50	14.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.32	.32	2	8	0
	7-18	20-52	15-50	20-40	1.40-1.60	1.40-4.00	0.10-0.15	3.0-5.9	0.0-0.5	.28	.32			
	18-22	---	---	---	---	0.07-0.42	---	---	---	---	---			
	22-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Bluemount------------	0-4	15-85	0-80	10-27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	4-14	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	14-24	15-52	15-80	18-35	1.30-1.40	4.00-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.37	.43			
	24-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
35C:														
Thurmont-------------	0-4	24-82	0-50	10-25	1.35-1.60	14.00-42.00	0.17-0.19	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	4-50	20-80	0-50	18-40	1.30-1.50	4.00-14.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	50-62	20-82	0-50	18-40	1.35-1.60	4.00-42.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	62-90	0-100	0-100	10-60	1.35-1.60	1.40-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.24			
Urban land.														
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
36B:														
Thurmont-------------	0-4	24-82	0-50	10-25	1.35-1.60	14.00-42.00	0.17-0.19	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	4-50	20-80	0-50	18-40	1.30-1.50	4.00-14.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	50-62	20-82	0-50	18-40	1.35-1.60	4.00-42.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	62-90	0-100	0-100	10-60	1.35-1.60	1.40-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.24			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
36B:														
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
36C:														
Thurmont-------------	0-4	24-82	0-50	10-25	1.35-1.60	14.00-42.00	0.17-0.19	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	4-50	20-80	0-50	18-40	1.30-1.50	4.00-14.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	50-62	20-82	0-50	18-40	1.35-1.60	4.00-42.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	62-90	0-100	0-100	10-60	1.35-1.60	1.40-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.24			
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
36D:														
Thurmont-------------	0-4	24-82	0-50	10-25	1.35-1.60	14.00-42.00	0.17-0.19	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	4-50	20-80	0-50	18-40	1.30-1.50	4.00-14.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	50-62	20-82	0-50	18-40	1.35-1.60	4.00-42.00	0.17-0.19	0.0-2.9	0.0-0.5	.28	.28			
	62-90	0-100	0-100	10-60	1.35-1.60	1.40-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.24			
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
37E:														
Trimont--------------	0-10	24-82	0-50	8-20	1.35-1.60	4.00-14.00	0.10-0.15	0.0-2.9	3.0-9.0	.20	.20	5	8	0
	10-29	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.24	.24			
	29-80	24-82	0-50	8-20	1.40-1.65	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.15	.24			
Porters--------------	0-10	24-82	0-50	10-20	1.15-1.45	14.00-42.00	0.12-0.16	0.0-2.9	3.0-8.0	.20	.20	3	8	0
	10-21	24-82	0-50	15-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	0.0-1.0	.24	.24			
	21-43	0-100	0-100	5-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	0.0-1.0	.24	.24			
	43-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
37F:														
Trimont--------------	0-10	24-82	0-50	8-20	1.35-1.60	4.00-14.00	0.10-0.15	0.0-2.9	3.0-9.0	.20	.20	5	8	0
	10-29	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.24	.24			
	29-80	24-82	0-50	8-20	1.40-1.65	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.15	.24			
Porters--------------	0-10	24-82	0-50	10-20	1.15-1.45	14.00-42.00	0.12-0.16	0.0-2.9	3.0-8.0	.20	.20	3	8	0
	10-21	24-82	0-50	15-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	0.0-1.0	.24	.24			
	21-43	0-100	0-100	5-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	0.0-1.0	.24	.24			
	43-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
38C:														
Watauga--------------	0-8	24-82	0-50	5-27	1.35-1.55	14.00-42.00	0.13-0.17	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	8-30	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.32	.32			
	30-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.24	.24			
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
38D:														
Watauga--------------	0-8	24-82	0-50	5-27	1.35-1.55	14.00-42.00	0.13-0.17	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	8-30	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.32	.32			
	30-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.24	.24			
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
38E:														
Watauga--------------	0-8	24-82	0-50	5-27	1.35-1.55	14.00-42.00	0.13-0.17	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	8-30	20-80	0-50	18-35	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.32	.32			
	30-80	0-100	0-100	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.24	.24			
Brownwood------------	0-6	32-85	0-50	5-20	1.00-1.40	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.24	.24	3	3	86
	6-35	32-85	0-50	5-18	1.20-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.28	.28			
	35-45	---	---	---	---	0.07-0.42	---	---	---	---	---			
	45-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
39B:														
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
39C:														
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
39D:														
Wintergreen----------	0-9	20-85	0-50	10-40	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	9-80	0-45	0-45	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
40C:														
Woolwine-------------	0-2	24-85	0-50	7-27	1.40-1.65	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.28	.28	3	8	0
	2-28	0-45	0-45	35-60	1.25-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.32			
	28-42	---	---	---	---	0.07-0.42	---	---	---	---	---			
	42-80	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
40C:														
Fairview-------------	0-9	24-85	0-50	10-20	1.30-1.50	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.28	.28	5	8	0
	9-23	0-45	0-45	35-60	1.30-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-29	20-85	0-49	10-40	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	29-80	---	---	10-27	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
Westfield------------	0-4	24-85	0-50	5-27	1.30-1.50	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-35	0-65	0-45	35-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	35-40	20-85	0-50	5-40	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	40-48	20-85	0-50	5-35	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.17	.17			
	48-71	---	---	---	---	0.07-0.42	---	---	---	---	---			
	71-81	---	---	---	---	0.01-0.07	---	---	---	---	---			
40D:														
Woolwine-------------	0-2	24-85	0-50	7-27	1.40-1.65	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.28	.28	3	8	0
	2-28	0-45	0-45	35-60	1.25-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.32			
	28-42	---	---	---	---	0.07-0.42	---	---	---	---	---			
	42-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Fairview-------------	0-9	24-85	0-50	10-20	1.30-1.50	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.28	.28	5	8	0
	9-23	0-45	0-45	35-60	1.30-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-29	20-85	0-49	10-40	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	29-80	---	---	10-27	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
Westfield------------	0-4	24-85	0-50	5-27	1.30-1.50	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-35	0-65	0-45	35-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	35-40	20-85	0-50	5-40	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	40-48	20-85	0-50	5-35	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.17	.17			
	48-71	---	---	---	---	0.07-0.42	---	---	---	---	---			
	71-81	---	---	---	---	0.01-0.07	---	---	---	---	---			
40E:														
Woolwine-------------	0-2	24-85	0-50	7-27	1.40-1.65	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.28	.28	3	8	0
	2-28	0-45	0-45	35-60	1.25-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.32			
	28-42	---	---	---	---	0.07-0.42	---	---	---	---	---			
	42-80	---	---	---	---	0.01-0.07	---	---	---	---	---			
Fairview-------------	0-9	24-85	0-50	10-20	1.30-1.50	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.28	.28	5	8	0
	9-23	0-45	0-45	35-60	1.30-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-29	20-85	0-49	10-40	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	29-80	---	---	10-27	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
40E:														
Westfield------------	0-4	24-85	0-50	5-27	1.30-1.50	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.28	.28	4	8	0
	4-35	0-65	0-45	35-55	1.20-1.35	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	35-40	20-85	0-50	5-40	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
	40-48	20-85	0-50	5-35	1.20-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.17	.17			
	48-71	---	---	---	---	0.07-0.42	---	---	---	---	---			
	71-81	---	---	---	---	0.01-0.07	---	---	---	---	---			
W.														
Water														

Table 18.—Chemical Soil Properties

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

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
1C:				
Ashe	0-1	4.0-16	3.0-12	3.5-6.0
	1-25	1.8-6.8	1.4-5.1	3.5-6.0
	25-80	---	---	---
Edneyville	0-6	3.5-18	2.6-14	4.5-6.0
	6-29	2.9-9.0	2.2-6.8	4.5-6.0
	29-61	2.4-9.5	1.8-7.1	4.5-6.0
Peaks	0-5	3.3-13	2.5-9.8	4.5-6.0
	5-34	1.3-5.6	1.0-4.2	4.5-6.0
	34-80	---	---	---
2D:				
Ashe	0-1	4.0-16	3.0-12	3.5-6.0
	1-25	1.8-6.8	1.4-5.1	3.5-6.0
	25-80	---	---	---
Peaks	0-5	3.3-13	2.5-9.8	4.5-6.0
	5-34	1.3-5.6	1.0-4.2	4.5-6.0
	34-80	---	---	---
Edneyville	0-6	3.5-18	2.6-14	4.5-6.0
	6-29	2.9-9.0	2.2-6.8	4.5-6.0
	29-61	2.4-9.5	1.8-7.1	4.5-6.0
3D:				
Bluemount	0-4	4.6-14	3.5-10	5.1-6.5
	4-14	6.3-13	4.7-10	5.1-6.5
	14-24	6.3-13	4.7-10	5.1-6.5
	24-80	---	---	---
Redbrush	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
Spriggs	0-6	4.6-14	3.5-10	4.5-6.0
	6-38	6.3-13	4.7-10	4.5-6.0
	38-52	---	---	---
	52-80	---	---	---
4E:				
Bluemount	0-4	4.6-14	3.5-10	5.1-6.5
	4-14	6.3-13	4.7-10	5.1-6.5
	14-24	6.3-13	4.7-10	5.1-6.5
	24-80	---	---	---
Spriggs	0-6	4.6-14	3.5-10	4.5-6.0
	6-38	6.3-13	4.7-10	4.5-6.0
	38-52	---	---	---
	52-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
5C:				
Bluemount------------	0-4	4.6-14	3.5-10	5.1-6.5
	4-14	6.3-13	4.7-10	5.1-6.5
	14-24	6.3-13	4.7-10	5.1-6.5
	24-80	---	---	---
Spriggs--------------	0-6	4.6-14	3.5-10	4.5-6.0
	6-38	6.3-13	4.7-10	4.5-6.0
	38-52	---	---	---
	52-80	---	---	---
Redbrush-------------	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
6C:				
Brownwood------------	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
Chandler-------------	0-4	3.5-22	2.6-17	4.5-5.5
	4-22	1.3-5.6	1.0-4.2	4.5-5.5
	22-80	1.3-5.6	1.0-4.2	4.5-5.5
6D:				
Brownwood------------	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
Chandler-------------	0-4	3.5-22	2.6-17	4.5-5.5
	4-22	1.3-5.6	1.0-4.2	4.5-5.5
	22-80	1.3-5.6	1.0-4.2	4.5-5.5
6E:				
Brownwood------------	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
Chandler-------------	0-4	3.5-22	2.6-17	4.5-5.5
	4-22	1.3-5.6	1.0-4.2	4.5-5.5
	22-80	1.3-5.6	1.0-4.2	4.5-5.5
6F:				
Brownwood------------	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
Chandler-------------	0-4	3.5-22	2.6-17	4.5-5.5
	4-22	1.3-5.6	1.0-4.2	4.5-5.5
	22-80	1.3-5.6	1.0-4.2	4.5-5.5

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
7B:				
Clifford	0-7	3.3-8.8	2.5-6.6	4.5-6.0
	7-54	3.5-6.6	2.6-5.0	4.5-6.0
	54-62	1.0-5.1	0.8-3.8	4.5-6.0
	62-82	1.0-5.1	0.8-3.8	4.5-6.0
7C:				
Clifford	0-7	3.3-8.8	2.5-6.6	4.5-6.0
	7-54	3.5-6.6	2.6-5.0	4.5-6.0
	54-62	1.0-5.1	0.8-3.8	4.5-6.0
	62-82	1.0-5.1	0.8-3.8	4.5-6.0
7D:				
Clifford	0-7	3.3-8.8	2.5-6.6	4.5-6.0
	7-54	3.5-6.6	2.6-5.0	4.5-6.0
	54-62	1.0-5.1	0.8-3.8	4.5-6.0
	62-82	1.0-5.1	0.8-3.8	4.5-6.0
8E:				
Clifford	0-7	3.3-8.8	2.5-6.6	4.5-6.0
	7-54	3.5-6.6	2.6-5.0	4.5-6.0
	54-62	1.0-5.1	0.8-3.8	4.5-6.0
	62-82	1.0-5.1	0.8-3.8	4.5-6.0
Hickoryknob	0-4	4.3-16	3.2-12	3.5-5.5
	4-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-36	---	---	---
	36-80	---	---	---
9C:				
Clifford	0-7	3.3-8.8	2.5-6.6	4.5-6.0
	7-54	3.5-6.6	2.6-5.0	4.5-6.0
	54-62	1.0-5.1	0.8-3.8	4.5-6.0
	62-82	1.0-5.1	0.8-3.8	4.5-6.0
Urban land.				
10B:				
Colescreek	0-9	3.7-16	2.7-12	5.1-7.3
	9-56	5.6-15	4.2-11	5.1-7.3
	56-80	1.3-7.9	1.0-5.9	5.1-7.3
Delanco	0-10	5.8-14	4.4-10	3.5-6.0
	10-37	4.5-9.9	3.4-7.4	3.5-6.0
	37-57	1.3-11	1.0-8.3	3.5-6.0
	57-80	1.3-11	1.0-8.3	3.5-6.0
11A:				
Comus	0-12	3.5-11	2.6-8.5	4.5-6.0
	12-47	3.5-9.0	2.6-6.8	4.5-6.0
	47-62	1.3-7.9	1.0-5.9	4.5-6.0
Maggodee	0-13	3.5-11	2.6-8.5	4.5-6.0
	13-48	3.5-9.0	2.6-6.8	4.5-6.0
	48-60	1.3-5.6	1.0-4.2	4.5-6.0
Elsinboro	0-11	4.3-11	3.2-8.5	4.5-5.5
	11-38	4.5-9.9	3.4-7.4	4.5-5.5
	38-60	2.0-7.9	1.5-5.9	4.5-5.5

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
12C:				
Cowee----------------	0-3	4.3-16	3.2-12	3.5-6.0
	3-18	4.5-9.9	3.4-7.4	3.5-6.0
	18-30	1.3-9.9	1.0-7.4	3.5-6.0
	30-43	---	---	---
	43-80	---	---	---
Cliffield------------	0-3	4.0-16	3.0-12	3.5-5.5
	3-6	3.6-9.0	2.7-6.8	3.5-5.5
	6-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-80	---	---	---
Evard----------------	0-4	3.5-18	2.6-13	4.5-6.0
	4-33	4.5-9.9	3.4-7.4	4.5-6.0
	33-72	1.3-6.1	1.0-4.6	4.5-6.0
12D:				
Cowee----------------	0-3	4.3-16	3.2-12	3.5-6.0
	3-18	4.5-9.9	3.4-7.4	3.5-6.0
	18-30	1.3-9.9	1.0-7.4	3.5-6.0
	30-43	---	---	---
	43-80	---	---	---
Cliffield------------	0-3	4.0-16	3.0-12	3.5-5.5
	3-6	3.6-9.0	2.7-6.8	3.5-5.5
	6-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-80	---	---	---
Evard----------------	0-4	3.5-18	2.6-13	4.5-6.0
	4-33	4.5-9.9	3.4-7.4	4.5-6.0
	33-72	1.3-6.1	1.0-4.6	4.5-6.0
12E:				
Cowee----------------	0-3	4.3-16	3.2-12	3.5-6.0
	3-18	4.5-9.9	3.4-7.4	3.5-6.0
	18-30	1.3-9.9	1.0-7.4	3.5-6.0
	30-43	---	---	---
	43-80	---	---	---
Cliffield------------	0-3	4.0-16	3.0-12	3.5-5.5
	3-6	3.6-9.0	2.7-6.8	3.5-5.5
	6-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-80	---	---	---
Evard----------------	0-4	3.5-18	2.6-13	4.5-6.0
	4-33	4.5-9.9	3.4-7.4	4.5-6.0
	33-72	1.3-6.1	1.0-4.6	4.5-6.0
13D:				
Cullasaja------------	0-7	12-40	9.4-30	4.5-6.0
	7-23	2.4-9.0	1.8-6.8	4.5-6.0
	23-60	2.4-9.0	1.8-6.8	4.5-6.0
Tuckasegee-----------	0-17	8.0-23	6.0-17	4.5-6.0
	17-60	5.6-13	4.2-10	4.5-6.0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
13E:				
Cullasaja------------	0-7	12-40	9.4-30	4.5-6.0
	7-23	2.4-9.0	1.8-6.8	4.5-6.0
	23-60	2.4-9.0	1.8-6.8	4.5-6.0
Tuckasegee-----------	0-17	8.0-23	6.0-17	4.5-6.0
	17-60	5.6-13	4.2-10	4.5-6.0
14C:				
Cullasaja------------	0-7	12-40	9.4-30	4.5-6.0
	7-23	2.4-9.0	1.8-6.8	4.5-6.0
	23-60	2.4-9.0	1.8-6.8	4.5-6.0
Tuckasegee-----------	0-17	8.0-23	6.0-17	4.5-6.0
	17-60	5.6-13	4.2-10	4.5-6.0
Dellwood-------------	0-8	8.0-22	6.0-16	4.5-6.0
	8-18	2.4-8.3	1.8-6.2	4.5-6.0
	18-60	0.8-4.8	0.6-3.6	4.5-6.0
15E:				
Drapermill-----------	0-3	3.5-16	2.6-12	3.5-5.5
	3-35	4.5-9.9	3.4-7.4	3.5-5.5
	35-80	---	---	---
16C:				
Edneytown------------	0-4	3.5-10	2.6-7.9	4.5-5.5
	4-52	5.0-9.9	3.8-7.4	4.5-5.5
	52-65	1.3-4.9	1.0-3.7	4.5-5.5
Sauratown------------	0-3	3.5-12	2.6-8.9	4.5-5.5
	3-26	4.5-9.9	3.4-7.4	4.5-5.5
	26-33	---	---	---
	33-80	---	---	---
16D:				
Edneytown------------	0-4	3.5-10	2.6-7.9	4.5-5.5
	4-12	2.4-9.8	1.8-7.4	4.5-5.5
	12-35	5.0-9.9	3.8-7.4	4.5-5.5
	35-45	5.0-9.9	3.8-7.4	4.5-5.5
	45-52	2.5-9.9	1.9-7.4	4.5-5.5
	52-65	1.3-4.9	1.0-3.7	4.5-5.5
Sauratown------------	0-3	3.5-12	2.6-8.9	4.5-5.5
	3-26	4.5-9.9	3.4-7.4	4.5-5.5
	26-33	---	---	---
	33-80	---	---	---
16E:				
Edneytown------------	0-4	3.5-10	2.6-7.9	4.5-5.5
	4-12	2.4-9.8	1.8-7.4	4.5-5.5
	12-35	5.0-9.9	3.8-7.4	4.5-5.5
	35-45	5.0-9.9	3.8-7.4	4.5-5.5
	45-52	2.5-9.9	1.9-7.4	4.5-5.5
	52-65	1.3-4.9	1.0-3.7	4.5-5.5
Sauratown------------	0-3	3.5-12	2.6-8.9	4.5-5.5
	3-26	4.5-9.9	3.4-7.4	4.5-5.5
	26-33	---	---	---
	33-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
16F:				
Edneytown------------	0-4	3.5-10	2.6-7.9	4.5-5.5
	4-12	2.4-9.8	1.8-7.4	4.5-5.5
	12-35	5.0-9.9	3.8-7.4	4.5-5.5
	35-45	5.0-9.9	3.8-7.4	4.5-5.5
	45-52	2.5-9.9	1.9-7.4	4.5-5.5
	52-65	1.3-4.9	1.0-3.7	4.5-5.5
Sauratown------------	0-3	3.5-12	2.6-8.9	4.5-5.5
	3-26	4.5-9.9	3.4-7.4	4.5-5.5
	26-33	---	---	---
	33-80	---	---	---
17B:				
Elsinboro------------	0-11	4.3-11	3.2-8.5	4.5-5.5
	11-38	4.5-9.9	3.4-7.4	4.5-5.5
	38-60	2.0-7.9	1.5-5.9	4.5-5.5
Colescreek-----------	0-9	3.7-16	2.7-12	5.1-7.3
	9-56	5.6-15	4.2-11	5.1-7.3
	56-80	1.3-7.9	1.0-5.9	5.1-7.3
18E:				
Goblintown-----------	0-8	3.3-9.5	2.5-7.1	4.5-6.0
	8-29	3.5-6.6	2.6-5.0	4.5-6.0
	29-36	1.5-5.1	1.1-3.8	4.5-6.0
	36-62	---	---	---
Drapermill-----------	0-3	3.5-16	2.6-12	3.5-5.5
	3-35	4.5-9.9	3.4-7.4	3.5-5.5
	35-80	---	---	---
Penhook--------------	0-6	2.9-11	2.2-8.5	3.5-5.5
	6-43	8.8-16	6.6-12	3.5-5.5
	43-63	1.3-7.9	1.0-5.9	3.5-5.5
19C:				
Hayesville-----------	0-9	3.3-9.3	2.5-7.0	3.5-6.0
	9-48	3.5-7.1	2.6-5.3	3.5-6.0
	48-54	2.0-5.1	1.5-3.8	3.5-6.0
	54-61	0.5-3.6	0.4-2.7	3.5-6.0
19D:				
Hayesville-----------	0-9	3.3-9.3	2.5-7.0	3.5-6.0
	9-48	3.5-7.1	2.6-5.3	3.5-6.0
	48-54	2.0-5.1	1.5-3.8	3.5-6.0
	54-61	0.5-3.6	0.4-2.7	3.5-6.0
20E:				
Hayesville-----------	0-9	3.3-9.3	2.5-7.0	3.5-6.0
	9-48	3.5-7.1	2.6-5.3	3.5-6.0
	48-54	2.0-5.1	1.5-3.8	3.5-6.0
	54-61	0.5-3.6	0.4-2.7	3.5-6.0
21F:				
Hickoryknob----------	0-4	4.3-16	3.2-12	3.5-5.5
	4-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-36	---	---	---
	36-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
21F:				
Rhodhiss	0-5	2.4-9.5	1.8-7.1	4.5-6.0
	5-38	4.5-9.9	3.4-7.4	4.5-6.0
	38-80	1.3-6.1	1.0-4.6	4.5-6.0
22C:				
Hickoryknob	0-4	4.3-16	3.2-12	3.5-5.5
	4-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-36	---	---	---
	36-80	---	---	---
Rhodhiss	0-5	2.4-9.5	1.8-7.1	4.5-6.0
	5-38	4.5-9.9	3.4-7.4	4.5-6.0
	38-80	1.3-6.1	1.0-4.6	4.5-6.0
Stott Knob	0-4	4.3-16	3.2-12	4.5-6.0
	4-19	4.5-9.9	3.4-7.4	4.5-6.0
	19-31	2.0-6.1	1.5-4.6	4.5-6.0
	31-38	2.0-6.1	1.5-4.6	4.5-6.0
	38-80	---	---	---
22D:				
Hickoryknob	0-4	4.3-16	3.2-12	3.5-5.5
	4-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-36	---	---	---
	36-80	---	---	---
Rhodhiss	0-5	2.4-9.5	1.8-7.1	4.5-6.0
	5-38	4.5-9.9	3.4-7.4	4.5-6.0
	38-80	1.3-6.1	1.0-4.6	4.5-6.0
Stott Knob	0-4	4.3-16	3.2-12	4.5-6.0
	4-19	4.5-9.9	3.4-7.4	4.5-6.0
	19-31	2.0-6.1	1.5-4.6	4.5-6.0
	31-38	2.0-6.1	1.5-4.6	4.5-6.0
	38-80	---	---	---
22E:				
Hickoryknob	0-4	4.3-16	3.2-12	3.5-5.5
	4-23	4.5-9.9	3.4-7.4	3.5-5.5
	23-36	---	---	---
	36-80	---	---	---
Rhodhiss	0-5	2.4-9.5	1.8-7.1	4.5-6.0
	5-38	4.5-9.9	3.4-7.4	4.5-6.0
	38-80	1.3-6.1	1.0-4.6	4.5-6.0
Stott Knob	0-4	4.3-16	3.2-12	4.5-6.0
	4-19	4.5-9.9	3.4-7.4	4.5-6.0
	19-31	2.0-6.1	1.5-4.6	4.5-6.0
	31-38	2.0-6.1	1.5-4.6	4.5-6.0
	38-80	---	---	---
23A:				
Iotla	0-3	7.5-16	5.6-12	5.1-6.0
	3-31	3.0-8.0	2.3-6.0	5.1-6.0
	31-43	3.0-8.0	2.3-6.0	5.1-6.0
	43-80	2.0-6.0	1.5-4.5	5.1-6.0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
23A:				
Maggodee	0-13	3.5-11	2.6-8.5	4.5-6.0
	13-48	3.5-9.0	2.6-6.8	4.5-6.0
	48-60	1.3-5.6	1.0-4.2	4.5-6.0
Colescreek	0-9	3.7-16	2.7-12	5.1-7.3
	9-56	5.6-15	4.2-11	5.1-7.3
	56-80	1.3-7.9	1.0-5.9	5.1-7.3
24B:				
Jackland	0-6	8.6-18	6.5-14	5.1-7.3
	6-48	18-31	13-23	5.1-7.3
	48-63	7.5-26	5.6-20	5.1-7.3
	63-80	5.0-21	3.8-16	5.1-7.3
Mirerock	0-6	7.3-20	5.5-15	5.6-7.8
	6-17	6.1-16	4.6-12	5.6-7.8
	17-35	18-31	13-23	5.6-7.8
	35-49	---	---	---
	49-80	---	---	---
Redbrush	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
24C:				
Jackland	0-6	8.6-18	6.5-14	5.1-7.3
	6-48	18-31	13-23	5.1-7.3
	48-63	7.5-26	5.6-20	5.1-7.3
	63-80	5.0-21	3.8-16	5.1-7.3
Mirerock	0-6	7.3-20	5.5-15	5.6-7.8
	6-17	6.1-16	4.6-12	5.6-7.8
	17-35	18-31	13-23	5.6-7.8
	35-49	---	---	---
	49-80	---	---	---
Redbrush	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
25C:				
Littlejoe	0-8	4.1-11	3.1-8.5	4.5-5.5
	8-45	8.8-16	6.6-12	4.5-5.5
	45-59	---	---	---
	59-80	---	---	---
Penhook	0-6	2.9-11	2.2-8.5	3.5-5.5
	6-43	8.8-16	6.6-12	3.5-5.5
	43-63	1.3-7.9	1.0-5.9	3.5-5.5

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
25C:				
Goblintown-----------	0-8	3.3-9.5	2.5-7.1	4.5-6.0
	8-29	3.5-6.6	2.6-5.0	4.5-6.0
	29-36	1.5-5.1	1.1-3.8	4.5-6.0
	36-62	---	---	---
25D:				
Littlejoe-----------	0-8	4.1-11	3.1-8.5	4.5-5.5
	8-45	8.8-16	6.6-12	4.5-5.5
	45-59	---	---	---
	59-80	---	---	---
Penhook-------------	0-6	2.9-11	2.2-8.5	3.5-5.5
	6-43	8.8-16	6.6-12	3.5-5.5
	43-63	1.3-7.9	1.0-5.9	3.5-5.5
Goblintown-----------	0-8	3.3-9.5	2.5-7.1	4.5-6.0
	8-29	3.5-6.6	2.6-5.0	4.5-6.0
	29-36	1.5-5.1	1.1-3.8	4.5-6.0
	36-62	---	---	---
26C:				
Littlejoe-----------	0-8	4.1-11	3.1-8.5	4.5-5.5
	8-45	8.8-16	6.6-12	4.5-5.5
	45-59	---	---	---
	59-80	---	---	---
Strawfield-----------	0-2	4.8-17	3.6-13	3.5-5.5
	2-9	6.1-12	4.6-9.2	3.5-5.5
	9-22	8.8-16	6.6-12	3.5-5.5
	22-80	---	---	---
Penhook-------------	0-6	2.9-11	2.2-8.5	3.5-5.5
	6-43	8.8-16	6.6-12	3.5-5.5
	43-63	1.3-7.9	1.0-5.9	3.5-5.5
26D:				
Littlejoe-----------	0-8	4.1-11	3.1-8.5	4.5-5.5
	8-45	8.8-16	6.6-12	4.5-5.5
	45-59	---	---	---
	59-80	---	---	---
Strawfield-----------	0-2	4.8-17	3.6-13	3.5-5.5
	2-9	6.1-12	4.6-9.2	3.5-5.5
	9-22	8.8-16	6.6-12	3.5-5.5
	22-80	---	---	---
Penhook-------------	0-6	2.9-11	2.2-8.5	3.5-5.5
	6-43	8.8-16	6.6-12	3.5-5.5
	43-63	1.3-7.9	1.0-5.9	3.5-5.5
27B:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
27C:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
27D:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
27E:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
28C:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
Orenda---------------	0-6	5.8-14	4.4-10	5.1-6.5
	6-25	12-22	9.2-17	5.1-6.5
	25-62	1.8-11	1.4-8.0	5.1-6.5
Redbrush-------------	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
28D:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
Orenda---------------	0-6	5.8-14	4.4-10	5.1-6.5
	6-25	12-22	9.2-17	5.1-6.5
	25-62	1.8-11	1.4-8.0	5.1-6.5
Redbrush-------------	0-5	3.6-14	2.7-10	5.1-7.8
	5-12	3.6-12	2.7-8.8	5.1-7.8
	12-23	12-22	9.2-17	5.1-7.8
	23-30	5.3-19	4.0-14	5.1-7.8
	30-38	---	---	---
	38-80	---	---	---
29C:				
Minnieville----------	0-4	1.8-8.5	1.4-6.4	5.1-6.0
	4-53	3.5-8.1	2.6-6.1	5.1-6.0
	53-81	2.7-5.1	2.0-3.8	5.1-6.0
Urban land.				
30C:				
Myersville-----------	0-4	4.0-14	3.0-10	5.1-6.0
	4-25	6.3-13	4.7-10	5.1-6.0
	25-58	1.8-11	1.4-8.0	5.1-6.0
	58-70	---	---	---
	70-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
30D:				
Myersville-----------	0-4	4.0-14	3.0-10	5.1-6.0
	4-25	6.3-13	4.7-10	5.1-6.0
	25-58	1.8-11	1.4-8.0	5.1-6.0
	58-70	---	---	---
	70-80	---	---	---
31E:				
Myersville-----------	0-4	4.0-14	3.0-10	5.1-6.0
	4-25	6.3-13	4.7-10	5.1-6.0
	25-58	1.8-11	1.4-8.0	5.1-6.0
	58-70	---	---	---
	70-80	---	---	---
Walnut---------------	0-4	4.0-18	3.0-14	5.1-7.3
	4-25	1.8-8.1	1.4-6.1	5.1-7.3
	25-41	---	---	---
	41-80	---	---	---
32F:				
Myersville-----------	0-4	4.0-14	3.0-10	5.1-6.0
	4-25	6.3-13	4.7-10	5.1-6.0
	25-58	1.8-11	1.4-8.0	5.1-6.0
	58-70	---	---	---
	70-80	---	---	---
Walnut---------------	0-4	4.0-18	3.0-14	5.1-7.3
	4-25	1.8-8.1	1.4-6.1	5.1-7.3
	25-41	---	---	---
	41-80	---	---	---
33E:				
Peaks----------------	0-5	3.3-13	2.5-9.8	4.5-6.0
	5-34	1.3-5.6	1.0-4.2	4.5-6.0
	34-80	---	---	---
Ashe-----------------	0-1	4.0-16	3.0-12	3.5-6.0
	1-25	1.8-6.8	1.4-5.1	3.5-6.0
	25-80	---	---	---
Edneyville-----------	0-6	3.5-18	2.6-14	4.5-6.0
	6-29	2.9-9.0	2.2-6.8	4.5-6.0
	29-61	2.4-9.5	1.8-7.1	4.5-6.0
33F:				
Peaks----------------	0-5	3.3-13	2.5-9.8	4.5-6.0
	5-34	1.3-5.6	1.0-4.2	4.5-6.0
	34-80	---	---	---
Ashe-----------------	0-1	4.0-16	3.0-12	3.5-6.0
	1-25	1.8-6.8	1.4-5.1	3.5-6.0
	25-80	---	---	---
Edneyville-----------	0-6	3.5-18	2.6-14	4.5-6.0
	6-29	2.9-9.0	2.2-6.8	4.5-6.0
	29-61	2.4-9.5	1.8-7.1	4.5-6.0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
34F:				
Siloam---------------	0-7	2.9-12	2.2-8.6	5.6-7.3
	7-18	7.0-15	5.3-11	5.6-7.3
	18-22	---	---	---
	22-80	---	---	---
Bluemount------------	0-4	4.6-14	3.5-10	5.1-6.5
	4-14	6.3-13	4.7-10	5.1-6.5
	14-24	6.3-13	4.7-10	5.1-6.5
	24-80	---	---	---
35C:				
Thurmont-------------	0-4	4.8-13	3.6-9.8	4.5-5.5
	4-50	4.5-9.9	3.4-7.4	4.5-5.5
	50-62	4.5-9.9	3.4-7.4	4.5-5.5
	62-90	2.5-16	1.9-12	4.5-5.5
Urban land.				
Wintergreen----------	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
36B:				
Thurmont-------------	0-4	4.8-13	3.6-9.8	4.5-5.5
	4-50	4.5-9.9	3.4-7.4	4.5-5.5
	50-62	4.5-9.9	3.4-7.4	4.5-5.5
	62-90	2.5-16	1.9-12	4.5-5.5
Wintergreen----------	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
36C:				
Thurmont-------------	0-4	4.8-13	3.6-9.8	4.5-5.5
	4-50	4.5-9.9	3.4-7.4	4.5-5.5
	50-62	4.5-9.9	3.4-7.4	4.5-5.5
	62-90	2.5-16	1.9-12	4.5-5.5
Wintergreen----------	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
36D:				
Thurmont-------------	0-4	4.8-13	3.6-9.8	4.5-5.5
	4-50	4.5-9.9	3.4-7.4	4.5-5.5
	50-62	4.5-9.9	3.4-7.4	4.5-5.5
	62-90	2.5-16	1.9-12	4.5-5.5
Wintergreen----------	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
37E:				
Trimont--------------	0-10	8.8-25	6.6-19	4.5-6.0
	10-29	5.6-13	4.2-10	4.5-6.0
	29-80	2.0-6.1	1.5-4.6	4.5-6.0
Porters--------------	0-10	9.3-23	7.0-17	4.5-6.0
	10-21	1.3-9.0	1.0-6.8	4.5-6.0
	21-43	1.3-7.3	1.0-5.5	4.5-6.0
	43-45	---	---	---
	45-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
37F:				
Trimont	0-10	8.8-25	6.6-19	4.5-6.0
	10-29	5.6-13	4.2-10	4.5-6.0
	29-80	2.0-6.1	1.5-4.6	4.5-6.0
Porters	0-10	9.3-23	7.0-17	4.5-6.0
	10-21	1.3-9.0	1.0-6.8	4.5-6.0
	21-43	1.3-7.3	1.0-5.5	4.5-6.0
	43-45	---	---	---
	45-80	---	---	---
38C:				
Watauga	0-8	3.5-13	2.6-9.8	4.5-6.0
	8-30	4.5-9.9	3.4-7.4	4.5-6.0
	30-80	1.3-5.5	1.0-4.1	4.5-6.0
Brownwood	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
38D:				
Watauga	0-8	3.5-13	2.6-9.8	4.5-6.0
	8-30	4.5-9.9	3.4-7.4	4.5-6.0
	30-80	1.3-5.5	1.0-4.1	4.5-6.0
Brownwood	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
38E:				
Watauga	0-8	3.5-13	2.6-9.8	4.5-6.0
	8-30	4.5-9.9	3.4-7.4	4.5-6.0
	30-80	1.3-5.5	1.0-4.1	4.5-6.0
Brownwood	0-6	3.5-16	2.6-12	4.5-5.5
	6-35	1.3-5.6	1.0-4.2	4.5-5.5
	35-45	---	---	---
	45-80	---	---	---
39B:				
Wintergreen	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
39C:				
Wintergreen	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
39D:				
Wintergreen	0-9	4.8-14	3.6-11	4.5-5.5
	9-80	8.8-15	6.6-11	4.5-5.5
40C:				
Woolwine	0-2	3.0-9.5	2.3-7.1	3.5-6.0
	2-28	3.5-7.1	2.6-5.3	3.5-6.0
	28-42	---	---	---
	42-80	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
40C:				
Fairview-------------	0-9	3.3-8.8	2.5-6.6	4.5-6.0
	9-23	3.5-7.1	2.6-5.3	4.5-6.0
	23-29	1.0-5.1	0.8-3.8	4.5-6.0
	29-80	1.0-3.8	0.8-2.9	4.5-6.0
Westfield------------	0-4	2.8-9.5	2.1-7.1	4.5-6.0
	4-35	3.5-6.6	2.6-5.0	4.5-6.0
	35-40	0.5-5.1	0.4-3.8	4.5-6.0
	40-48	0.5-4.6	0.4-3.5	4.5-6.0
	48-71	---	---	---
	71-80	---	---	---
40D:				
Woolwine-------------	0-2	3.0-9.5	2.3-7.1	3.5-6.0
	2-28	3.5-7.1	2.6-5.3	3.5-6.0
	28-42	---	---	---
	42-80	---	---	---
Fairview-------------	0-9	3.3-8.8	2.5-6.6	4.5-6.0
	9-23	3.5-7.1	2.6-5.3	4.5-6.0
	23-29	1.0-5.1	0.8-3.8	4.5-6.0
	29-80	1.0-3.8	0.8-2.9	4.5-6.0
Westfield------------	0-4	2.8-9.5	2.1-7.1	4.5-6.0
	4-35	3.5-6.6	2.6-5.0	4.5-6.0
	35-40	0.5-5.1	0.4-3.8	4.5-6.0
	40-48	0.5-4.6	0.4-3.5	4.5-6.0
	48-71	---	---	---
	71-80	---	---	---
40E:				
Woolwine-------------	0-2	3.0-9.5	2.3-7.1	3.5-6.0
	2-28	3.5-7.1	2.6-5.3	3.5-6.0
	28-42	---	---	---
	42-80	---	---	---
Fairview-------------	0-9	3.3-8.8	2.5-6.6	4.5-6.0
	9-23	3.5-7.1	2.6-5.3	4.5-6.0
	23-29	1.0-5.1	0.8-3.8	4.5-6.0
	29-80	1.0-3.8	0.8-2.9	4.5-6.0
Westfield------------	0-4	2.8-9.5	2.1-7.1	4.5-6.0
	4-35	3.5-6.6	2.6-5.0	4.5-6.0
	35-40	0.5-5.1	0.4-3.8	4.5-6.0
	40-48	0.5-4.6	0.4-3.5	4.5-6.0
	48-71	---	---	---
	71-80	---	---	---
W.				
Water				

Table 19.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1C:										
Ashe	B	High	Jan-Dec	---	---	---	---	None	---	None
Edneyville	B	Low	Jan-Dec	---	---	---	---	None	---	None
Peaks	C	High	Jan-Dec	---	---	---	---	None	---	None
2D:										
Ashe	B	High	Jan-Dec	---	---	---	---	None	---	None
Peaks	C	High	Jan-Dec	---	---	---	---	None	---	None
Edneyville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
3D:										
Bluemount	C	High	Jan-Dec	---	---	---	---	None	---	None
Redbrush	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Spriggs	C	High	Jan-Dec	---	---	---	---	None	---	None
4E:										
Bluemount	C	High	Jan-Dec	---	---	---	---	None	---	None
Spriggs	C	High	Jan-Dec	---	---	---	---	None	---	None
5C:										
Bluemount	C	High	Jan-Dec	---	---	---	---	None	---	None
Spriggs	C	High	Jan-Dec	---	---	---	---	None	---	None
Redbrush	C	High	Jan-Dec	---	---	---	---	None	---	None
6C:										
Brownwood	B	High	Jan-Dec	---	---	---	---	None	---	None
Chandler	B	Low	Jan-Dec	---	---	---	---	None	---	None
6D:										
Brownwood	B	High	Jan-Dec	---	---	---	---	None	---	None
Chandler	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
6E:										
Brownwood	B	High	Jan-Dec	---	---	---	---	None	---	None
Chandler	B	Medium	Jan-Dec	---	---	---	---	None	---	None
6F:										
Brownwood	B	High	Jan-Dec	---	---	---	---	None	---	None
Chandler	B	Medium	Jan-Dec	---	---	---	---	None	---	None
7B:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
7C:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
7D:										
Clifford	B	High	Jan-Dec	---	---	---	---	None	---	None
8E:										
Clifford	B	High	Jan-Dec	---	---	---	---	None	---	None
Hickoryknob	C	High	Jan-Dec	---	---	---	---	None	---	None
9C:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
10B:										
Colescreek	C	Medium	Jan-Apr	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			May	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Jun-Oct	---	---	---	---	None	Very brief	Rare
			Nov	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Dec	2.5-3.5	>6.0	---	---	None	Very brief	Rare
Delanco	C	High	Jan-Apr	2.0-3.0	>6.0	---	---	None	Very brief	Rare
			May	3.0-6.0	>6.0	---	---	None	Very brief	Rare
			Jun	4.0-6.6	>6.0	---	---	None	Very brief	Rare
			Jul-Oct	---	---	---	---	None	Very brief	Rare
			Nov	3.0-6.0	>6.0	---	---	None	Very brief	Rare
			Dec	2.0-3.0	>6.0	---	---	None	Very brief	Rare
11A:										
Comus	B	Low	Jan	---	---	---	---	None	Very brief	Rare
			Feb-May	---	---	---	---	None	Very brief	Occasional
			Jun-Dec	---	---	---	---	None	Very brief	Rare

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
11A:										
Maggodee------------------	B	Very low	Jan	1.5-3.0	>6.0	---	---	None	Very brief	Rare
			Feb-May	1.5-3.0	>6.0	---	---	None	Very brief	Occasional
			Jun	3.0-6.6	>6.0	---	---	None	Very brief	Rare
			Jul-Nov	---	---	---	---	None	Very brief	Rare
			Dec	3.0-6.6	>6.0	---	---	None	Very brief	Rare
Elsinboro-----------------	B	Low	Jan-Apr	5.0-6.6	>6.0	---	---	None	Very brief	Rare
			May-Nov	---	---	---	---	None	Very brief	Rare
			Dec	>5.0	>6.0	---	---	None	Very brief	Rare
12C:										
Cowee---------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Cliffield-----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Evard---------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
12D:										
Cowee---------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Cliffield-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Evard---------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
12E:										
Cowee---------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Cliffield-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Evard---------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
13D:										
Cullasaja-----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Tuckasegee----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
13E:										
Cullasaja-----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Tuckasegee----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
14C:										
Cullasaja-----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
Tuckasegee----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
14C:										
Dellwood	A	Very low	Jan-Apr	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
			May	4.0-6.6	>6.0	---	---	None	Very brief	Rare
			Jun-Oct	---	---	---	---	None	Very brief	Rare
			Nov	4.0-6.6	>6.0	---	---	None	Very brief	Rare
			Dec	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
15E:										
Drapermill	B	High	Jan-Dec	---	---	---	---	None	---	None
16C:										
Edneytown	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Sauratown	B	High	Jan-Dec	---	---	---	---	None	---	None
16D:										
Edneytown	B	High	Jan-Dec	---	---	---	---	None	---	None
Sauratown	B	High	Jan-Dec	---	---	---	---	None	---	None
16E:										
Edneytown	B	High	Jan-Dec	---	---	---	---	None	---	None
Sauratown	B	High	Jan-Dec	---	---	---	---	None	---	None
16F:										
Edneytown	B	High	Jan-Dec	---	---	---	---	None	---	None
Sauratown	B	High	Jan-Dec	---	---	---	---	None	---	None
17B:										
Elsinboro	B	Medium	Jan-Apr	5.0-6.6	>6.0	---	---	None	Very brief	Rare
			May-Nov	---	---	---	---	None	Very brief	Rare
			Dec	>5.0	>6.0	---	---	None	Very brief	Rare
Colescreek	C	Medium	Jan-Apr	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			May	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Jun-Oct	---	---	---	---	None	Very brief	Rare
			Nov	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Dec	2.5-3.5	>6.0	---	---	None	Very brief	Rare
18E:										
Goblintown	B	High	Jan-Dec	---	---	---	---	None	---	None
Drapermill	B	High	Jan-Dec	---	---	---	---	None	---	None
Penhook	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
19C:										
Hayesville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
19D:										
Hayesville	B	High	Jan-Dec	---	---	---	---	None	---	None
20E:										
Hayesville	B	High	Jan-Dec	---	---	---	---	None	---	None
21F:										
Hickoryknob	C	High	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss	B	High	Jan-Dec	---	---	---	---	None	---	None
22C:										
Hickoryknob	C	High	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Stott Knob	B	High	Jan-Dec	---	---	---	---	None	---	None
22D:										
Hickoryknob	C	High	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss	B	High	Jan-Dec	---	---	---	---	None	---	None
Stott Knob	B	High	Jan-Dec	---	---	---	---	None	---	None
22E:										
Hickoryknob	C	High	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss	B	High	Jan-Dec	---	---	---	---	None	---	None
Stott Knob	B	High	Jan-Dec	---	---	---	---	None	---	None
23A:										
Iotla	B	Very low	Jan-Mar	1.5-3.5	>6.0	---	---	None	Brief	Occasional
			Apr	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			May	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			Jun	3.0-6.0	>6.0	---	---	None	Brief	Rare
			Jul-Sep	4.0-6.0	>6.0	---	---	None	Brief	Rare
			Oct	3.0-6.0	>6.0	---	---	None	Brief	Rare
			Nov	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			Dec	1.5-3.5	>6.0	---	---	None	Brief	Occasional

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
23A:										
Maggodee------------------	B	Very low	Jan	1.5-3.0	>6.0	---	---	None	Very brief	Rare
			Feb-May	1.5-3.0	>6.0	---	---	None	Very brief	Occasional
			Jun	3.0-6.6	>6.0	---	---	None	Very brief	Rare
			Jul-Nov	---	---	---	---	None	Very brief	Rare
			Dec	3.0-6.6	>6.0	---	---	None	Very brief	Rare
Colescreek----------------	C	Low	Jan-Apr	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			May	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Jun-Oct	---	---	---	---	None	Very brief	Rare
			Nov	3.5-4.5	>6.0	---	---	None	Very brief	Rare
			Dec	2.5-3.5	>6.0	---	---	None	Very brief	Rare
24B:										
Jackland------------------	D	Very high	Jan-Apr	1.0-2.0	2.0-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.0	2.0-3.0	---	---	None	---	None
Mirerock------------------	D	High	Jan-Dec	---	---	---	---	None	---	None
Redbrush------------------	C	High	Jan-Dec	---	---	---	---	None	---	None
24C:										
Jackland------------------	D	Very high	Jan-Apr	1.0-2.0	2.0-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.0	2.0-3.0	---	---	None	---	None
Mirerock------------------	D	High	Jan-Dec	---	---	---	---	None	---	None
Redbrush------------------	C	High	Jan-Dec	---	---	---	---	None	---	None
25C:										
Littlejoe-----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Penhook-------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Goblintown----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
25D:										
Littlejoe-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Penhook-------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Goblintown----------------	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
26C:										
Littlejoe	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Strawfield	B	High	Jan-Dec	---	---	---	---	None	---	None
Penhook	B	Medium	Jan-Dec	---	---	---	---	None	---	None
26D:										
Littlejoe	B	High	Jan-Dec	---	---	---	---	None	---	None
Strawfield	B	High	Jan-Dec	---	---	---	---	None	---	None
Penhook	B	High	Jan-Dec	---	---	---	---	None	---	None
27B:										
Minnieville	C	Medium	Jan-Dec	---	---	---	---	None	---	None
27C:										
Minnieville	C	Medium	Jan-Dec	---	---	---	---	None	---	None
27D:										
Minnieville	C	High	Jan-Dec	---	---	---	---	None	---	None
27E:										
Minnieville	C	High	Jan-Dec	---	---	---	---	None	---	None
28C:										
Minnieville	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Orenda	B	High	Jan-Dec	---	---	---	---	None	---	None
Redbrush	C	High	Jan-Dec	---	---	---	---	None	---	None
28D:										
Minnieville	C	High	Jan-Dec	---	---	---	---	None	---	None
Orenda	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Redbrush	C	High	Jan-Dec	---	---	---	---	None	---	None
29C:										
Minnieville	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
30C:										
Myersville	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
30D:										
Myersville	B	High	Jan-Dec	---	---	---	---	None	---	None
31E:										
Myersville	B	High	Jan-Dec	---	---	---	---	None	---	None
Walnut	B	High	Jan-Dec	---	---	---	---	None	---	None
32F:										
Myersville	B	High	Jan-Dec	---	---	---	---	None	---	None
Walnut	B	High	Jan-Dec	---	---	---	---	None	---	None
33E:										
Peaks	C	High	Jan-Dec	---	---	---	---	None	---	None
Ashe	B	High	Jan-Dec	---	---	---	---	None	---	None
Edneyville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
33F:										
Peaks	C	High	Jan-Dec	---	---	---	---	None	---	None
Ashe	B	High	Jan-Dec	---	---	---	---	None	---	None
Edneyville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
34F:										
Siloam	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Bluemount	C	High	Jan-Dec	---	---	---	---	None	---	None
35C:										
Thurmont	B	Medium	Jan-May	5.0-6.6	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	5.0-6.6	>6.0	---	---	None	---	None
Urban land.										
Wintergreen	B	Medium	Jan-Dec	---	---	---	---	None	---	None
36B:										
Thurmont	B	Medium	Jan-May	5.0-6.6	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	5.0-6.6	>6.0	---	---	None	---	None
Wintergreen	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
36C:										
Thurmont------------------	B	Medium	Jan-May	5.0-6.6	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	5.0-6.6	>6.0	---	---	None	---	None
Wintergreen---------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
36D:										
Thurmont------------------	B	High	Jan-May	5.0-6.6	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	5.0-6.6	>6.0	---	---	None	---	None
Wintergreen---------------	B	High	Jan-Dec	---	---	---	---	None	---	None
37E:										
Trimont-------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Porters-------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
37F:										
Trimont-------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Porters-------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
38C:										
Watauga-------------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Brownwood-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
38D:										
Watauga-------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Brownwood-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
38E:										
Watauga-------------------	B	High	Jan-Dec	---	---	---	---	None	---	None
Brownwood-----------------	B	High	Jan-Dec	---	---	---	---	None	---	None
39B:										
Wintergreen---------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
39C:										
Wintergreen---------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
39D:										
Wintergreen---------------	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
40C:										
Woolwine	B	High	Jan-Dec	---	---	---	---	None	---	None
Fairview	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Westfield	B	Medium	Jan-Dec	---	---	---	---	None	---	None
40D:										
Woolwine	B	High	Jan-Dec	---	---	---	---	None	---	None
Fairview	B	High	Jan-Dec	---	---	---	---	None	---	None
Westfield	B	High	Jan-Dec	---	---	---	---	None	---	None
40E:										
Woolwine	B	High	Jan-Dec	---	---	---	---	None	---	None
Fairview	B	High	Jan-Dec	---	---	---	---	None	---	None
Westfield	B	High	Jan-Dec	---	---	---	---	None	---	None
W. 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			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
1C:						
Ashe	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Edneyville	---	---	---	Moderate	Moderate	Moderate
Peaks	Lithic bedrock	20-40	Indurated	Moderate	Low	High
2D:						
Ashe	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Peaks	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Edneyville	---	---	---	Moderate	Moderate	Moderate
3D:						
Bluemount	Lithic bedrock	20-40	Indurated	None	Low	Moderate
Redbrush	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
Spriggs	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	40-60	Indurated			
4E:						
Bluemount	Lithic bedrock	20-40	Indurated	None	Low	Moderate
Spriggs	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	40-60	Indurated			
5C:						
Bluemount	Lithic bedrock	20-40	Indurated	None	Low	Moderate
Spriggs	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	40-60	Indurated			
Redbrush	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
6C:						
Brownwood	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
Chandler	---	---	---	Moderate	Low	High
6D:						
Brownwood	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
Chandler	---	---	---	Moderate	Low	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
6E:						
Brownwood	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
Chandler	---	---	---	Moderate	Low	High
6F:						
Brownwood	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
Chandler	---	---	---	Moderate	Low	High
7B:						
Clifford	---	---	---	None	Moderate	High
7C:						
Clifford	---	---	---	None	Moderate	High
7D:						
Clifford	---	---	---	None	Moderate	High
8E:						
Clifford	---	---	---	None	Moderate	High
Hickoryknob	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	20-40	Indurated			
9C:						
Clifford	---	---	---	None	Moderate	High
Urban land.						
10B:						
Colescreek	---	---	---	None	Moderate	High
Delanco	---	---	---	None	High	High
11A:						
Comus	---	---	---	None	Low	High
Maggodee	---	---	---	None	Low	High
Elsinboro	---	---	---	None	Moderate	High
12C:						
Cowee	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	40-60	Indurated			
Cliffield	Lithic bedrock	20-40	Indurated	Moderate	Moderate	High
Evard	---	---	---	Moderate	Moderate	High
12D:						
Cowee	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	40-60	Indurated			

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
12D:						
Cliffield----------	Lithic bedrock	20-40	Indurated	Moderate	Moderate	High
Evard--------------	---	---	---	Moderate	Moderate	High
12E:						
Cowee--------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	40-60	Indurated			
Cliffield----------	Lithic bedrock	20-40	Indurated	Moderate	Moderate	High
Evard--------------	---	---	---	Moderate	Moderate	High
13D:						
Cullasaja----------	---	---	---	Moderate	High	High
Tuckasegee---------	---	---	---	Moderate	Moderate	Moderate
13E:						
Cullasaja----------	---	---	---	Moderate	High	High
Tuckasegee---------	---	---	---	Moderate	Moderate	Moderate
14C:						
Cullasaja----------	---	---	---	Moderate	High	High
Tuckasegee---------	---	---	---	Moderate	Moderate	Moderate
Dellwood-----------	---	---	---	Low	Low	Moderate
15E:						
Drapermill---------	Lithic bedrock	20-40	Indurated	None	Moderate	High
16C:						
Edneytown----------	---	---	---	Moderate	Moderate	Moderate
Sauratown----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Indurated			
16D:						
Edneytown----------	---	---	---	Moderate	Moderate	Moderate
Sauratown----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Indurated			
16E:						
Edneytown----------	---	---	---	Moderate	Moderate	Moderate
Sauratown----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Indurated			
16F:						
Edneytown----------	---	---	---	Moderate	Moderate	Moderate
Sauratown----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Indurated			

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
17B:						
Elsinboro	---	---	---	None	Moderate	High
Colescreek	---	---	---	None	Moderate	High
18E:						
Goblintown	Paralithic bedrock	20-40	Moderately cemented	None	High	High
Drapermill	Lithic bedrock	20-40	Indurated	None	Moderate	High
Penhook	---	---	---	None	High	High
19C:						
Hayesville	---	---	---	Moderate	Moderate	Moderate
19D:						
Hayesville	---	---	---	Moderate	Moderate	Moderate
20E:						
Hayesville	---	---	---	Moderate	Moderate	Moderate
21F:						
Hickoryknob	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	20-40	Indurated			
Rhodhiss	---	---	---	None	Moderate	High
22C:						
Hickoryknob	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	20-40	Indurated			
Rhodhiss	---	---	---	None	Moderate	High
Stott Knob	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High
22D:						
Hickoryknob	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	20-40	Indurated			
Rhodhiss	---	---	---	None	Moderate	High
Stott Knob	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High
22E:						
Hickoryknob	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
	Lithic bedrock	20-40	Indurated			
Rhodhiss	---	---	---	None	Moderate	High
Stott Knob	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
23A:						
Iotla	---	---	---	None	Low	Moderate
Maggodee	---	---	---	None	Low	High
Colescreek	---	---	---	None	Moderate	High
24B:						
Jackland	---	---	---	None	High	Low
Mirerock	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
	Lithic bedrock	40-60	Indurated			
Redbrush	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
24C:						
Jackland	---	---	---	None	High	Low
Mirerock	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
	Lithic bedrock	40-60	Indurated			
Redbrush	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
25C:						
Littlejoe	Paralithic bedrock	40-60	Moderately cemented	None	High	High
	Lithic bedrock	40-80	Indurated			
Penhook	---	---	---	None	High	High
Goblintown	Paralithic bedrock	20-40	Moderately cemented	None	High	High
25D:						
Littlejoe	Paralithic bedrock	40-60	Moderately cemented	None	High	High
	Lithic bedrock	40-80	Indurated			
Penhook	---	---	---	None	High	High
Goblintown	Paralithic bedrock	20-40	Moderately cemented	None	High	High
26C:						
Littlejoe	Paralithic bedrock	40-60	Moderately cemented	None	High	High
	Lithic bedrock	40-80	Indurated			
Strawfield	Lithic bedrock	20-40	Indurated	None	High	High
Penhook	---	---	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
26D:						
Littlejoe----------	Paralithic bedrock	40-60	Moderately cemented	None	High	High
	Lithic bedrock	40-80	Indurated			
Strawfield---------	Lithic bedrock	20-40	Indurated	None	High	High
Penhook------------	---	---	---	None	High	High
27B:						
Minnieville--------	---	---	---	None	High	Moderate
27C:						
Minnieville--------	---	---	---	None	High	Moderate
27D:						
Minnieville--------	---	---	---	None	High	Moderate
27E:						
Minnieville--------	---	---	---	None	High	Moderate
28C:						
Minnieville--------	---	---	---	None	High	Moderate
Orenda-------------	---	---	---	None	High	Moderate
Redbrush-----------	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
28D:						
Minnieville--------	---	---	---	None	High	Moderate
Orenda-------------	---	---	---	None	High	Moderate
Redbrush-----------	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
	Lithic bedrock	20-40	Indurated			
29C:						
Minnieville--------	---	---	---	None	High	Moderate
Urban land.						
30C:						
Myersville---------	Paralithic bedrock	40-60	Moderately cemented	Moderate	Moderate	Moderate
	Lithic bedrock	60-80	Indurated			
30D:						
Myersville---------	Paralithic bedrock	40-60	Moderately cemented	Moderate	Moderate	Moderate
	Lithic bedrock	60-80	Indurated			
31E:						
Myersville---------	Paralithic bedrock	40-60	Moderately cemented	Moderate	Moderate	Moderate
	Lithic bedrock	60-80	Indurated			

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
31E:						
Walnut	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	Moderate
	Lithic bedrock	40-80	Indurated			
32F:						
Myersville	Paralithic bedrock	40-60	Moderately cemented	Moderate	Moderate	Moderate
	Lithic bedrock	60-80	Indurated			
Walnut	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	Moderate
	Lithic bedrock	40-80	Indurated			
33E:						
Peaks	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Ashe	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Edneyville	---	---	---	Moderate	Moderate	Moderate
33F:						
Peaks	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Ashe	Lithic bedrock	20-40	Indurated	Moderate	Low	High
Edneyville	---	---	---	Moderate	Moderate	Moderate
34F:						
Siloam	Paralithic bedrock	10-20	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	20-40	Indurated			
Bluemount	Lithic bedrock	20-40	Indurated	None	Low	Moderate
35C:						
Thurmont	---	---	---	None	Moderate	Moderate
Urban land.						
Wintergreen	---	---	---	None	High	Moderate
36B:						
Thurmont	---	---	---	None	Moderate	Moderate
Wintergreen	---	---	---	None	High	Moderate
36C:						
Thurmont	---	---	---	None	Moderate	Moderate
Wintergreen	---	---	---	None	High	Moderate
36D:						
Thurmont	---	---	---	None	Moderate	Moderate
Wintergreen	---	---	---	None	High	Moderate
37E:						
Trimont	---	---	---	Moderate	Low	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
37E:						
Porters------------	Paralithic bedrock	40-60	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
37F:						
Trimont------------	---	---	---	Moderate	Low	High
Porters------------	Paralithic bedrock	40-60	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
38C:						
Watauga------------	---	---	---	Moderate	Moderate	Moderate
Brownwood----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
38D:						
Watauga------------	---	---	---	Moderate	Moderate	Moderate
Brownwood----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
38E:						
Watauga------------	---	---	---	Moderate	Moderate	Moderate
Brownwood----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
	Lithic bedrock	40-60	Indurated			
39B:						
Wintergreen--------	---	---	---	None	High	Moderate
39C:						
Wintergreen--------	---	---	---	None	High	Moderate
39D:						
Wintergreen--------	---	---	---	None	High	Moderate
40C:						
Woolwine-----------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High
	Lithic bedrock	40-60	Indurated			
Fairview-----------	---	---	---	None	High	High
Westfield----------	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	High
	Lithic bedrock	60-80	Indurated			
40D:						
Woolwine-----------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High
	Lithic bedrock	40-60	Indurated			
Fairview-----------	---	---	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
40D:						
Westfield----------	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	High
	Lithic bedrock	60-80	Indurated			
40E:						
Woolwine-----------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	High
	Lithic bedrock	40-60	Indurated			
Fairview-----------	---	---	---	None	High	High
Westfield----------	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	High
	Lithic bedrock	60-80	Indurated			
W.						
Water						

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
Ashe	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Bluemount	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Brownwood	Coarse-loamy, paramicaceous, mesic Typic Dystrudepts
Chandler	Coarse-loamy, micaceous, mesic Typic Dystrudepts
Cliffield	Loamy-skeletal, mixed, subactive, mesic Typic Hapludults
Clifford	Fine, kaolinitic, mesic Typic Kanhapludults
Colescreek	Fine-loamy, mixed, semiactive, mesic Oxyaquic Hapludalfs
Comus	Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts
Cowee	Fine-loamy, parasesquic, mesic Typic Hapludults
Cullasaja	Loamy-skeletal, isotic, mesic Humic Dystrudepts
Delanco	Fine-loamy, mixed, semiactive, mesic Aquic Hapludults
Dellwood	Sandy-skeletal, mixed, mesic Oxyaquic Dystrudepts
Drapermill	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Edneytown	Fine-loamy, mixed, active, mesic Typic Hapludults
Edneyville	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Elsinboro	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Evard	Fine-loamy, parasesquic, mesic Typic Hapludults
Fairview	Fine, kaolinitic, mesic Typic Kanhapludults
Goblintown	Fine, mixed, subactive, mesic Humic Hapludults
Hayesville	Fine, kaolinitic, mesic Typic Kanhapludults
Hickoryknob	Fine-loamy, mixed, subactive, mesic Typic Hapludults
Iotla	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Jackland	Fine, smectitic, mesic Aquic Hapludalfs
Littlejoe	Fine, mixed, subactive, mesic Typic Hapludults
Maggodee	Coarse-loamy, mixed, superactive, mesic Oxyaquic Dystrudepts
Minnieville	Fine, kaolinitic, mesic Typic Hapludults
Mirerock	Fine, smectitic, mesic Typic Hapludalfs
Myersville	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Orenda	Fine, mixed, active, mesic Ultic Hapludalfs
Peaks	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Penhook	Fine, mixed, subactive, mesic Typic Hapludults
*Porters	Fine-loamy, isotic, mesic Humic Dystrudepts
Redbrush	Fine, mixed, superactive, mesic Typic Hapludalfs
Rhodhiss	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Sauratown	Fine-loamy, mixed, subactive, mesic Typic Hapludults
Siloam	Loamy, mixed, superactive, mesic, shallow Typic Hapludalfs
Spriggs	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Stott Knob	Fine-loamy, parasesquic, mesic Typic Hapludults
Strawfield	Fine, mixed, subactive, mesic Typic Hapludults
*Thurmont	Fine-loamy, mixed, active, mesic Typic Hapludults
Trimont	Fine-loamy, mixed, active, mesic Humic Hapludults
Tuckasegee	Fine-loamy, isotic, mesic Humic Dystrudepts
Walnut	Coarse-loamy, mixed, superactive, mesic Dystric Eutrudepts
Watauga	Fine-loamy, paramicaceous, mesic Typic Hapludults
Westfield	Fine, kaolinitic, mesic Typic Kanhapludults
Wintergreen	Fine, mixed, subactive, mesic Typic Paleudults
Woolwine	Fine, kaolinitic, mesic Typic Kanhapludults

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