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Natural
Resources
Conservation
Service

In cooperation with
The Pennsylvania State
University, College of
Agricultural Sciences;
Pennsylvania Department
of Environmental
Protection; Pennsylvania
Department of Agriculture;
Pennsylvania Association
of Conservation Districts;
Clinton County
Conservation District; and
Clinton County Board of
Commissioners

Soil Survey of Clinton County, Pennsylvania



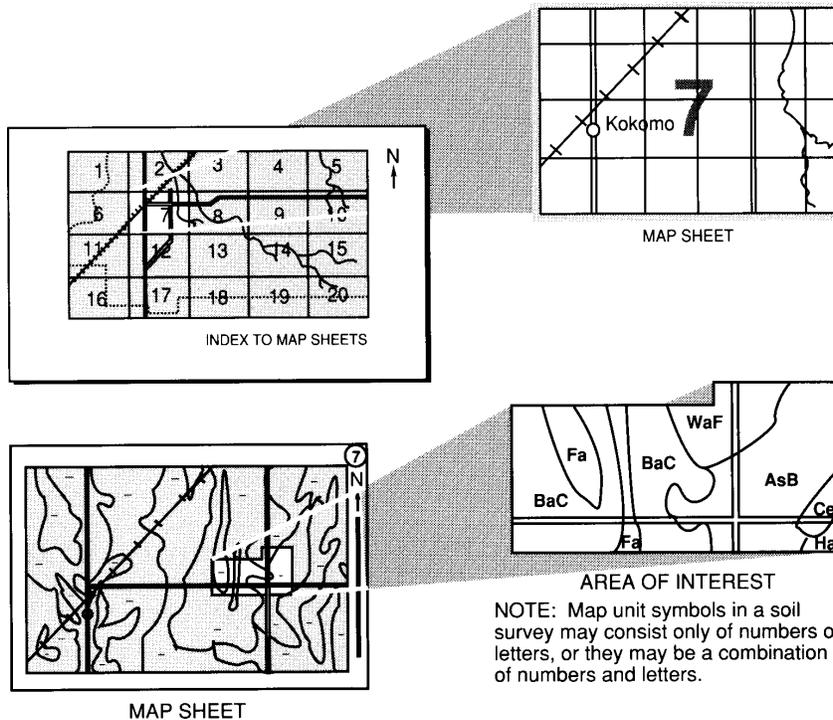
How To Use This Soil Survey

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.



Soil Survey of Clinton County, Pennsylvania

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

Major fieldwork for this soil survey was completed in 1998. Soil names and descriptions were approved in February 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1999. This survey was made cooperatively by the Natural Resources Conservation Service; The Pennsylvania State University, College of Agricultural Sciences; the Pennsylvania Department of Environmental Protection; the Pennsylvania Department of Agriculture; the Pennsylvania Association of Conservation Districts; the Clinton County Conservation District; and the Clinton County Board of Commissioners.

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Cover: The West Branch of the Susquehanna River flows through Clinton County. This photo, which was taken from Hyner View State Park, shows a river valley within the dominant Allegheny Plateau landscape.

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

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Foreword

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

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

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

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

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

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State Conservationist
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Soil Survey of Clinton County, Pennsylvania

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Fieldwork by Joseph J. Eckenrode, Timothy A. Craul, Ned Ellenberger,
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United States Department of Agriculture, Natural Resources
Conservation Service,
in cooperation with
The Pennsylvania State University, College of Agricultural Sciences;
the Pennsylvania Department of Environmental Protection; the
Pennsylvania Department of Agriculture; the Pennsylvania Association
of Conservation Districts; the Clinton County Conservation District; and
the Clinton County Board of Commissioners

CLINTON COUNTY is in the north-central part of Pennsylvania (fig. 1). It has a total area of 575,123 acres, or about 899 square miles. Lock Haven, the county seat, is in the south-central part of the county where the West Branch of the Susquehanna River and Bald Eagle Creek meet. Elevation in Clinton County ranges from about 530 feet at the Susquehanna River near Avis to slightly more than 2,330 feet near State Camp to the northwest.



Figure 1.—Location of Clinton County in Pennsylvania.

In 2000, the population of Clinton County was 37,914, of which 9,149 lived in Lock Haven, the only incorporated city in the county. A number of small communities are scattered throughout the southeastern third of the county and along the Susquehanna River to the northwest. The main economic enterprises are farming, timber production, and manufacturing. Farmland comprises about 9 percent of the county, and woodland is dominant in the rest of the survey area. Most of the farmland is in areas of the limestone valleys and along the Susquehanna River. The soils in these areas are highly productive. The majority of the woodland is on steep or less productive, acid soils on plateaus.

This soil survey updates the survey of Clinton County published in 1966 (Steputis, Matticks, Zimmerman, and Henry 1966). It provides additional information about the soils of Clinton County and includes improved soil maps.

General Nature of the County

This section provides general information about the history and development; agriculture; physiography, geology, mineral resources, and drainage; and climate of the county.

History and Development

Clinton County was established by an act of legislature on June 21, 1839, from parts of Centre and Lycoming Counties. Settlement of the area began prior to 1775 while the Iroquois Indians still controlled the area. Settlement pressure forced the Indians westward by the late 1700s. Early settlers came from many different countries to build homes and clear the land. Some came for the timber and others for the mineral resources, such as iron, clay, and coal. During the 1800s, timber was the most valuable resource. As time progressed, other resources, such as iron ore, coal, limestone, clay, and rich agricultural land, became important to the local economy.

By 1900, tobacco was one of the major crops produced in the county. It was grown mainly on the fertile soils on flood plains along rivers. In 1903, the U.S. Department of Agriculture completed a soil survey of the Lock Haven area because of the importance of tobacco to the agricultural community (Martin 1903). Eventually, increased production in other areas lowered the price and the acreage of tobacco declined. Today, very little tobacco is grown in the county.

The county's resources led to the development of other industries such as the rail yards at Renovo, a woolen mill, an ax handle manufacturer, brickyards, and limestone mining.

Agriculture

There are approximately 345 farms in the county with about 44,000 acres of cropland (Tosiano and Capstick 2000). The average size of the farms is 128 acres. The majority of the farms produce either dairy products or beef cattle. In 2002, the total cash receipts for all crops and livestock products was approximately \$18 million. The top five agricultural commodities were dairy; poultry, meat animals, and miscellaneous livestock; hay; corn for grain; and corn for silage.

The majority of the farms in the county are located in areas of soils derived from limestone in Sugar Valley and Nittany Valley or in areas of alluvial soils along the Susquehanna River (fig. 2). A small number of farms are along Bald Eagle Creek or on the shale hills along the base of the Allegheny Front.

Physiography, Geology, Mineral Resources, and Drainage

Yuri Plowden, soil scientist, Natural Resources Conservation Service, and Paul Malmquist, undergraduate student in geology at Lock Haven University, helped to write this section.

Clinton County lies within two physiographic provinces of Pennsylvania—the Appalachian Plateaus and the Ridge and Valley (Bureau of Topographic and Geologic Survey 2000b). The division between the two provinces is marked by the Allegheny Front, which trends along a northeast-southwest axis, northwest of the town of Lock Haven (fig. 3).

The county is further divided into physiographic sections. The southeast part of the county is characterized by the long, narrow ridges and broad to narrow valleys of the Appalachian Mountain (fig. 4) and Susquehanna Lowland Sections (fig. 5), while the northern half is characterized by very deep, angular valleys with broad to narrow uplands characteristic of the Deep Valleys Section (fig. 6). Glacial deposits include pre-Illinoian glacial till in the eastern part of the county along both sides of the

Soil Survey of Clinton County, Pennsylvania



Figure 2.—A typical farm in an area of a limestone valley in Clinton County.

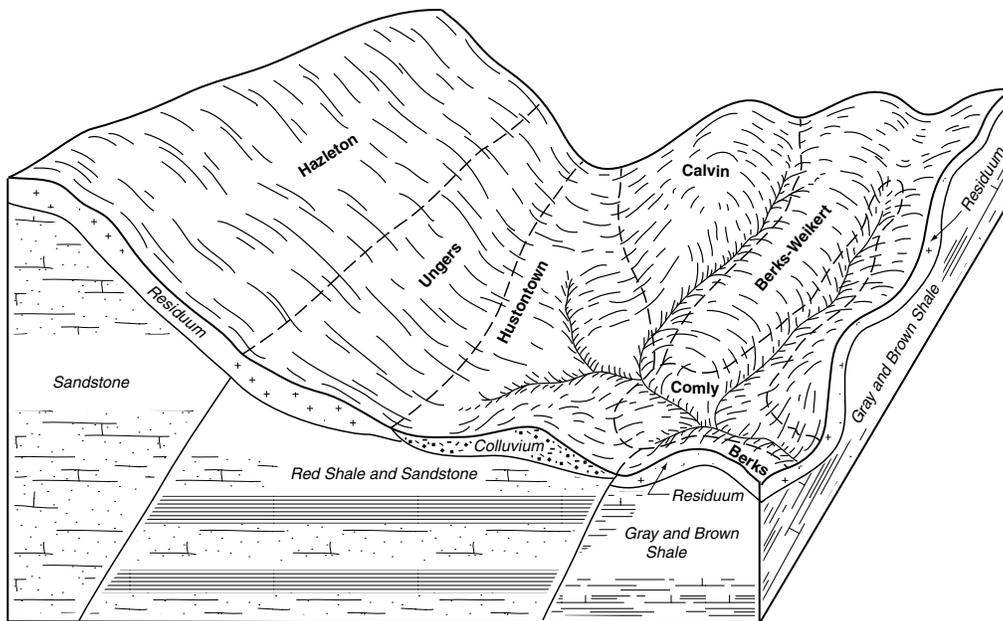


Figure 3.—Typical pattern of soils and parent material that are dominant along the footslopes of the Allegheny Front.

Susquehanna River east of Lock Haven, near the township of Avis, and recent to late-Illinoian stratified drift in the Susquehanna River valley (Bureau of Topographic and Geologic Survey 2000a).

Topography of the southeastern part of the county is controlled by the more weather-resistant sedimentary sandstone and quartzite rock formations, which compose the high ridges, while less resistant siltstone, shale, dolomite, and limestone successively form the mountain slopes and valleys. Rock units are of Devonian,

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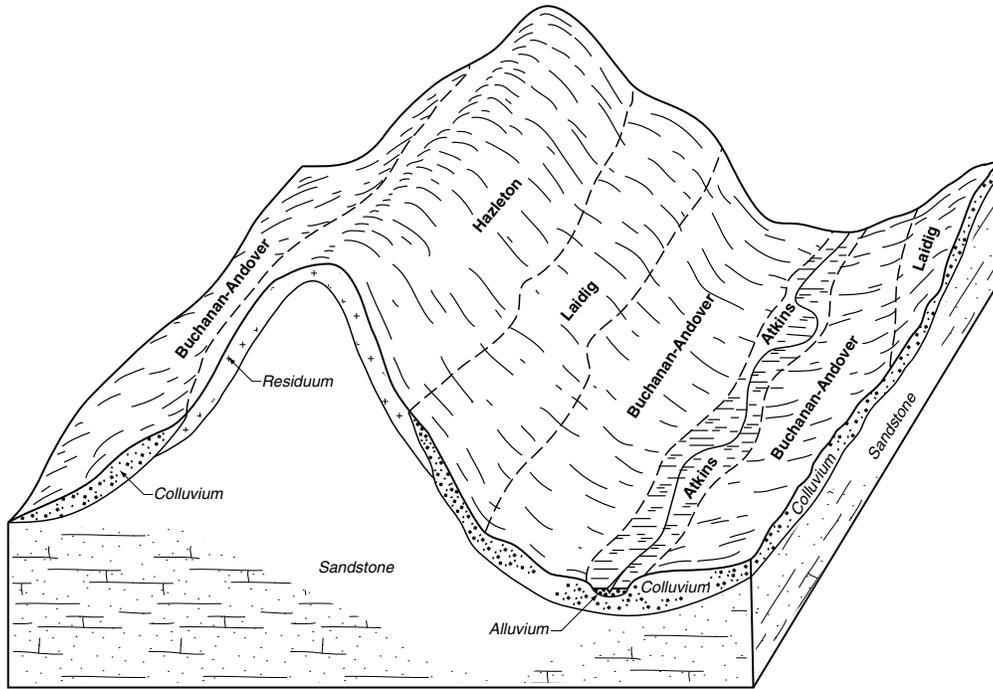


Figure 4.—Typical pattern of soils and parent material on the side slopes and footslopes of the Appalachian Mountain Section.

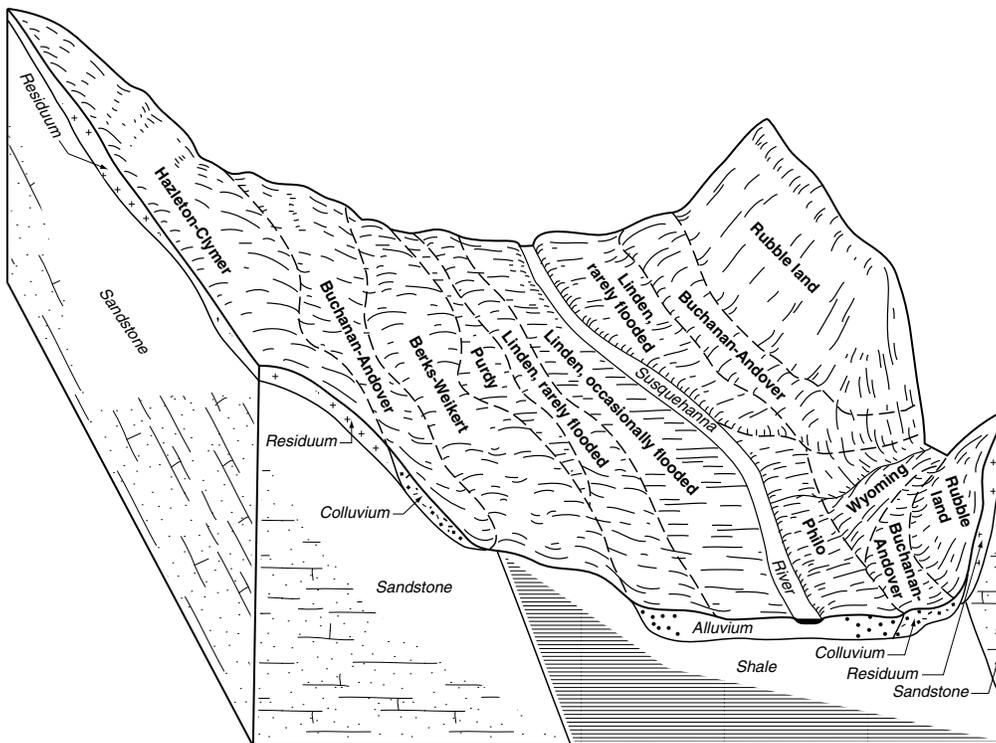


Figure 5.—Typical pattern of soils and parent material throughout the Susquehanna Lowland Section.

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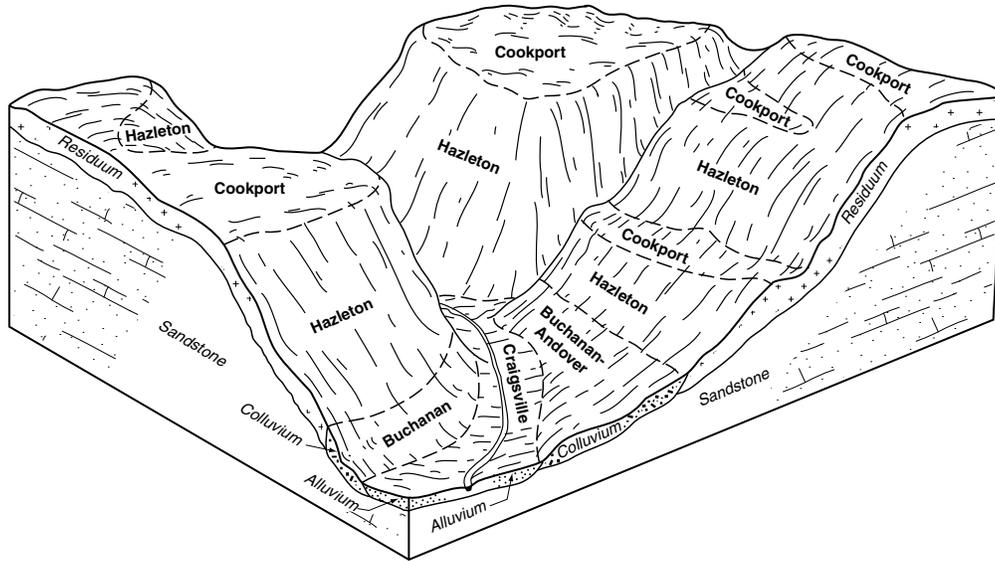


Figure 6.—Typical pattern of soils and parent material throughout the Deep Valleys Section.

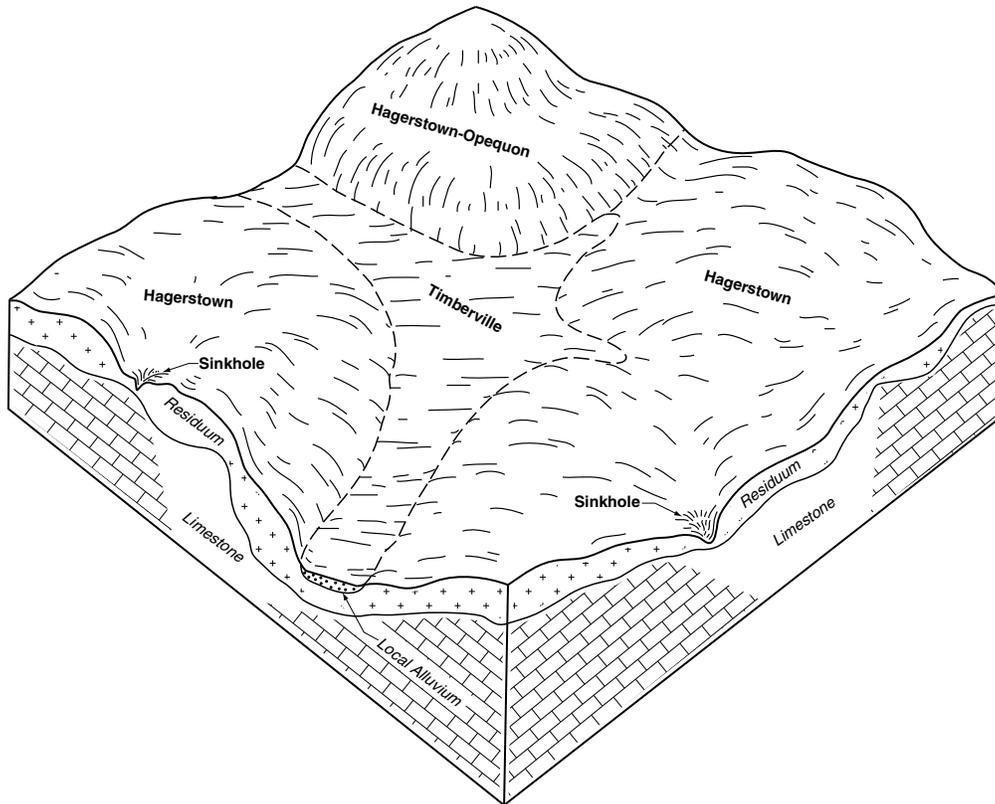


Figure 7.—Typical pattern of soils and parent material throughout the karst regions.

Silurian, and Ordovician age. Maximum relief is about 1,800 feet. Karst topography is also characteristic of the region. Drainage patterns are trellis with karst regions producing small sinkholes and solution valleys (fig. 7). Anticlines and synclines trend

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northeast-southwest and have narrow hinges and planar limbs. The folds are typically doubly plunging in both directions along the hinge to produce canoe-shaped valleys (Malmquist, unpublished).

Maximum relief in the northern part of the county is estimated at 1,730 feet. Rock formations in this area are generally resistant sandstones, siltstones, and conglomerates with medium-volatile bituminous coal present in narrow seams. Rock units are of Pennsylvanian, Mississippian, and Devonian age. Units dip gently southeast and northeast but are typically near horizontal. Stream patterns are dendritic.

The formation of the Appalachian Plateaus began after Paleozoic marine and nonmarine deposition. During the late Paleozoic Era, regional uplift from the southeast caused this area to rise uniformly without much disturbance to bedrock altitudes. The topography of today is a result of dissection of the plateau by streams, which gave the area the appearance of rolling hills (fig. 8).

The Paleozoic beds of the Ridge and Valley Province underwent lateral compression from the southeast that formed many deeply folded anticlinal and synclinal features. The final stage of erosion followed the last period of compressional uplift. Different bedrock lithology and exposure in this complex network of folds have resulted in the development of ridges and broad to narrow valleys (Braker 1981).

The mineral resources of Clinton County are natural gas, limestone, clay, shale, and bituminous coal (Barnes 1997; Bureau of Topographic and Geologic Survey 1992). Limestone is mined in the county for construction aggregate. Clay and shale are mined for use in tile and flue lines, agricultural drain tiles, and sewer pipes. Some clay is mined as fire clay and is used primarily for handling molten metal in blast

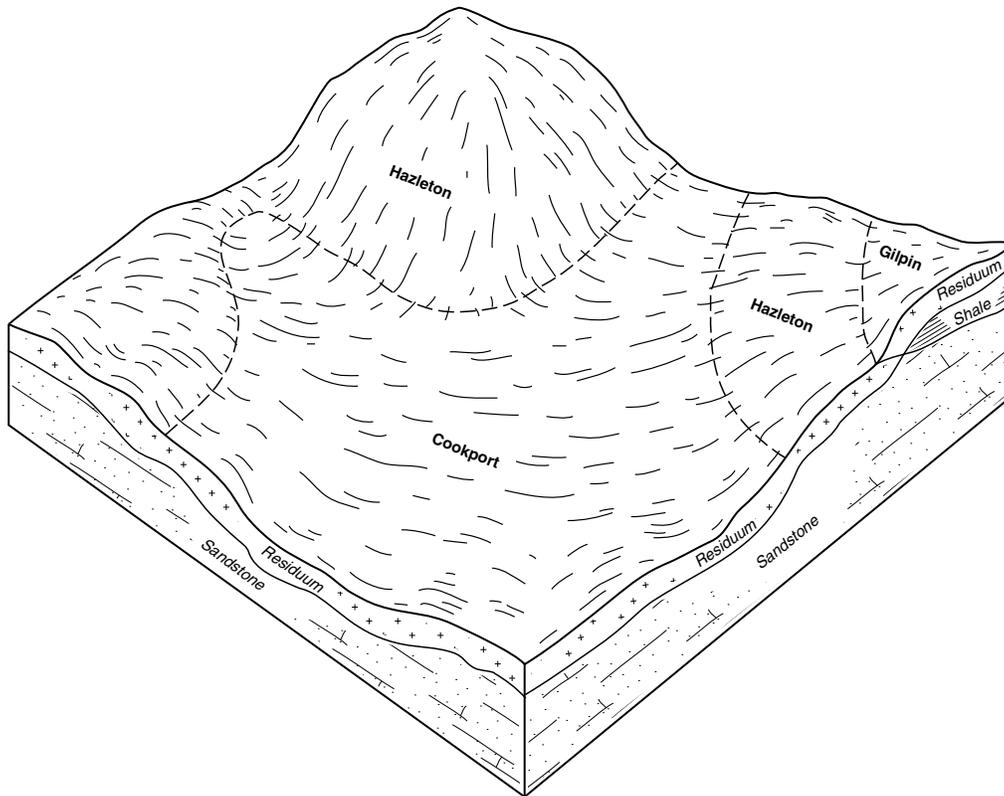


Figure 8.—Typical pattern of soils and parent material on the Appalachian Plateaus in the northern part of the county.

furnaces since it is able to withstand very high temperatures (Berkheiser and Barnes 1999). Natural gas is stored and extracted in Clinton County. Gas fields range from shallow to deep and are associated with sandstones ranging from Pennsylvanian to lower Devonian age (Harper, Kelley, and Linn 1999; Harper, Tatlock, and Wolfe 1999).

Clinton County lies within the West Branch Susquehanna River basin, which is fed by Kettle Creek and Young Women's Creek to the north and Sinnemahoning Creek to the west. Bald Eagle Creek drains into the basin to the south. Former coal mining operations in the county are still discharging acid mine drainage into the watershed, which impacts the overall health of the Susquehanna River basin.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Lock Haven in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season. The number of days with thunderstorms, the percentage of relative humidity and of possible sunshine, and the information about wind were estimated from data collected at Harrisburg, Pennsylvania.

In winter, the average temperature is 28.6 degrees F and the average daily minimum temperature is 19.9 degrees. The lowest temperature on record, which occurred on January 18, 1982, is -19 degrees. In summer, the average temperature is 69.8 degrees and the average daily maximum temperature is 82.4 degrees. The highest recorded temperature, which occurred on July 8, 1988, is 104 degrees.

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

The total annual precipitation is 40.62 inches. Of this, about 20.25 inches, or nearly 50 percent, usually falls in May through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 4.22 inches on June 29, 1983. Thunderstorms occur on about 33 days each year, and most occur in July.

The average seasonal snowfall is 27.01 inches. The greatest snow depth at any one time during the period of record was 35 inches recorded on March 4, 1994. On the average, 18 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year. The heaviest 1-day snowfall on record was 21 inches recorded on March 3, 1994.

The average relative humidity in midafternoon is about 54 percent. Humidity is higher at night, and the average at dawn is about 75 percent. The sun shines 59 percent of the time possible in summer and 34 percent in winter. The prevailing wind is from the northwest. Average windspeed is highest, 8.3 miles per hour, in March.

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

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unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

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

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

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

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

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

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs

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and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis

of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Hagerstown silt loam, 3 to 8 percent slopes, is a phase of the Hagerstown series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

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. Buchanan-Andover gravelly loams, 3 to 8 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. The map unit Melvin and Newark silt loams is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The map unit Rubble land is an example.

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

AeB—Aeric Epiaquents, gently sloping

Setting

Landscape position: Smooth or convex upland slopes

Composition

Aeric Epiaquents: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 32 inches; channery clay loam

32 to 65 inches; very channery silt loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Very low (about 1.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Somewhat poorly drained

Depth to the seasonal high water table: About 12 to 24 inches

Kind of water table: Apparent

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Mine spoil or earthy fill derived from sandstone and shale

Inclusions

- The moderately well drained Cookport and the poorly drained Nolo soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.

Woodland

Suitability: Poorly suited

Management considerations:

- The bedrock may interfere with the construction of haul roads and log landings.
- The wetness may limit the use of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- Because of the limited depth to bedrock, these soils are unsuited to conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 6s

Hydric soil: No

AfD—Allegheny silt loam, 8 to 25 percent slopes

Setting

Landscape position: Smooth or slightly convex terraces in river valleys

Composition

Allegheny soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; silt loam
6 to 35 inches; gravelly silt loam
35 to 65 inches; fine sandy loam

Soil Properties and Qualities

Slope: Strongly sloping or moderately steep
Depth class: Very deep
Available water capacity: Moderate (about 8.2 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Root restrictive feature: None
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Old loamy alluvium derived from sandstone and shale

Inclusions

- The well drained Hazleton and Ungers soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Poorly suited to northern red oak; moderately suited to yellow-poplar

Management considerations:

- Because of the slope, erosion is a hazard and the safe operation of equipment is a management concern during the construction of haul roads and log landings.
- The low strength of the soil is an additional limitation affecting the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

AgB—Allenwood gravelly silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex terraces and valley sides

Composition

Allenwood soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 11 inches; gravelly silt loam

11 to 44 inches; gravelly clay

44 to 65 inches; gravelly clay loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Weathered, fine-loamy till derived from sandstone and shale

Inclusions

- The moderately well drained Watson and the well drained Hartleton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

AgC—Allenwood gravelly silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or convex terraces and valley sides

Composition

Allenwood soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 11 inches; gravelly silt loam

11 to 44 inches; gravelly clay

44 to 65 inches; gravelly clay loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Weathered, fine-loamy till derived from sandstone and shale

Inclusions

- The moderately well drained Watson and the well drained Hartleton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

AgD—Allenwood gravelly silt loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or convex terraces and valley sides

Composition

Allenwood soil: 90 percent

Inclusions: 10 percent

Typical Profile

0 to 11 inches; gravelly silt loam

11 to 44 inches; gravelly clay

44 to 65 inches; gravelly clay loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Weathered, fine-loamy till derived from sandstone and shale

Inclusions

- The well drained Hartleton soils

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

At—Atkins silt loam

Setting

Landscape position: Concave flood plains and backswamp areas

Composition

Atkins soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 16 inches; silt loam

16 to 45 inches; silty clay loam

45 to 70 inches; silty clay loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: High (about 9.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Root restrictive feature: None

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Fine-loamy alluvium derived from sedimentary rock

Inclusions

- The well drained Linden and the moderately well drained Philo and Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and grass-legume hay

Management considerations:

- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Moderately suited

Management considerations:

- The flooding may damage pasture grasses.
- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.

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- Grazing when the soil is wet can result in surface compaction.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to red maple

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3w

Hydric soil: Yes

Ba—Barbour fine sandy loam

Setting

Landscape position: Smooth or slightly convex flood plains, low terraces, and alluvial fans

Composition

Barbour soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; fine sandy loam

6 to 20 inches; fine sandy loam

20 to 65 inches; very gravelly sand

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 5.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Reddish, coarse-loamy alluvium derived from sedimentary rock

Inclusions

- The moderately well drained Basher and Philo and the well drained Linden soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The flooding may damage crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

Bb—Barbour-Craigsville complex

Setting

Landscape position: Smooth or slightly convex flood plains, low terraces, and alluvial fans

Composition

Barbour soil: 35 percent

Craigsville soil: 35 percent

Inclusions: 30 percent

Typical Profile

Barbour

0 to 6 inches; fine sandy loam

6 to 20 inches; fine sandy loam

20 to 65 inches; very gravelly sand

Craigsville

0 to 5 inches; gravelly loam

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5 to 32 inches; very gravelly loam
32 to 65 inches; extremely gravelly sandy loam

Soil Properties and Qualities

Barbour

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 5.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Reddish, coarse-loamy alluvium derived from sedimentary rock

Craigsville

Slope: Nearly level

Available water capacity: Low (about 5.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Root restrictive feature: None

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Negligible

Surface fragments: None

Parent material: Sandy and gravelly alluvium derived from sedimentary rock

Inclusions

- The moderately well drained Basher and Philo and the poorly drained Atkins soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Pasture

Suitability: Well suited

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- The coarse textured layers in these soils increase the need for maintenance of haul roads and log landings.
- The rock fragments make the use of mechanical planting equipment impractical.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: Barbour—1; Craigsville—2s

Hydric soil: No

Bc—Basher silt loam

Setting

Landscape position: Smooth or slightly concave flood plains

Composition

Basher: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 10 inches; silt loam

10 to 33 inches; loam

33 to 50 inches; fine sandy loam

50 to 65 inches; coarse sand

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Root restrictive feature: None

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 18 to 30 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Coarse-loamy alluvium derived from sedimentary rock

Inclusions

- The well drained Barbour and Linden and the poorly drained Atkins soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.

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- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.
- Frost action may damage the root system of plants.

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

BeB—Berks channery silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex slopes on ridges in valleys

Composition

Berks: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 6 inches; channery silt loam

6 to 26 inches; very channery silt loam

26 to 36 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Moderately deep

Available water capacity: Very low (about 2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Soil Survey of Clinton County, Pennsylvania

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Hartleton, the moderately well drained Comly, and the well drained, shallow Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

BeC—Berks channery silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or convex slopes on ridges in valleys

Composition

Berks soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; channery silt loam
6 to 26 inches; very channery silt loam
26 to 36 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping
Depth class: Moderately deep
Available water capacity: Very low (about 2 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Very low
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Hartleton, the moderately well drained Comly, and the well drained, shallow Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

BeD—Berks-Weikert complex, 15 to 25 percent slopes

Setting

Landscape position: Smooth or convex slopes on ridges in valleys

Composition

Berks soil: 45 percent

Weikert soil: 30 percent

Inclusions: 25 percent

Typical Profile

Berks

0 to 6 inches; channery silt loam

6 to 26 inches; very channery silt loam

26 to 36 inches; bedrock

Weikert

0 to 6 inches; very channery silt loam

6 to 15 inches; very channery silt loam

15 to 25 inches; bedrock

Soil Properties and Qualities

Berks

Slope: Moderately steep

Depth class: Moderately deep

Available water capacity: Very low (about 2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Weikert

Slope: Moderately steep

Depth class: Shallow

Available water capacity: Very low (about 1.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Hartleton, Laidig, and Pennval soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants (fig. 9).

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The coarse textured layers in these soils increase the maintenance of haul roads and log landings.
- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.



Figure 9.—The depth to bedrock in areas of the Weikert soil is a limitation affecting pasture in the Berks-Weikert complex, 15 to 25 percent slopes.

- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, these soils are unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Berks—4e; Weikert—6e

Hydric soil: No

BeE—Berks-Weikert complex, 25 to 60 percent slopes

Setting

Landscape position: Smooth or convex slopes on ridges in valleys

Composition

Berks soil: 40 percent
Weikert soil: 35 percent
Inclusions: 25 percent

Typical Profile

Berks

0 to 5 inches; channery silt loam
5 to 23 inches; very channery silt loam
23 to 36 inches; bedrock

Weikert

0 to 4 inches; very channery silt loam
4 to 15 inches; very channery silt loam
15 to 25 inches; bedrock

Soil Properties and Qualities

Berks

Slope: Steep and very steep
Depth class: Moderately deep
Available water capacity: Very low (about 1.8 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Weikert

Slope: Steep and very steep
Depth class: Shallow
Available water capacity: Very low (about 1.1 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: High (about 2 inches per hour)
Depth to root restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Hartleton and the moderately well drained Comly soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The slope may restrict the use of some farm equipment.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, these soils are unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Berks—6e; Weikert—7e

Hydric soil: No

BgA—Brinkerton silt loam, 0 to 3 percent slopes

Setting

Landscape position: Concave terraces, footslopes, and drainageways

Composition

Brinkerton soil: 70 percent

Inclusions: 30 percent

Typical Profile

0 to 4 inches; silt loam

4 to 30 inches; loam

30 to 65 inches; loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 30 inches to a fragipan

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Very high

Surface fragments: None

Parent material: Colluvium derived from shale and siltstone

Inclusions

- The moderately well drained Comly and Cookport, the well drained Berks and Weikert, and the poorly drained Nolo soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and grass-legume hay

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Moderately suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.
- The dense soil layer may restrict the rooting depth of plants.
- Grazing when the soil is wet can result in surface compaction.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to red maple

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4w

Hydric soil: Yes

BhB—Buchanan gravelly loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 75 percent
Inclusions: 25 percent

Typical Profile

0 to 7 inches; gravelly loam
7 to 21 inches; gravelly loam
21 to 65 inches; cobbly clay loam

Soil Properties and Qualities

Slope: Gently sloping
Depth class: Very deep
Available water capacity: Low (about 3.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 20 to 36 inches to a fragipan
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 14 to 30 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Surface fragments: None
Parent material: Colluvium derived from sandstone and shale

Inclusions

- The moderately well drained Wharton, the well drained Laidig, and the poorly drained Andover soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when this soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

BhD—Buchanan gravelly loam, 8 to 25 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 7 inches; gravelly loam

7 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium derived from sandstone and shale

Inclusions

- The moderately well drained Wharton, the well drained Laidig, and the poorly drained Andover soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The wetness may limit the operation of logging trucks.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table and the restricted permeability of this soil limit the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

BmB—Buchanan gravelly loam, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 80 percent
Inclusions: 20 percent

Typical Profile

0 to 3 inches; gravelly loam
3 to 21 inches; gravelly loam
21 to 65 inches; cobbly clay loam

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Stony colluvium derived from sandstone and shale

Inclusions

- The moderately well drained Cookport, the well drained Murrill and Laidig, and the poorly drained Andover soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

BmC—Buchanan gravelly loam, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 3 inches; gravelly loam

3 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Stony colluvium derived from sandstone and shale

Inclusions

- The moderately well drained Cookport, the well drained Laidig, and the poorly drained Andover soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

- The wetness may limit the operation of logging trucks in areas of this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

BuB—Buchanan-Andover gravelly loams, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 45 percent

Andover soil: 40 percent

Inclusions: 15 percent

Typical Profile

Buchanan

0 to 7 inches; gravelly loam

7 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Andover

0 to 10 inches; gravelly loam

10 to 22 inches; silty clay loam

22 to 55 inches; gravelly loam

55 to 65 inches; gravelly loam

Soil Properties and Qualities

Buchanan

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Soil Survey of Clinton County, Pennsylvania

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium derived from sandstone and shale

Andover

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 25 inches to a fragipan

Drainage class: Poorly drained

Depth to the seasonal high water table: About 0 to 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Brown fine-loamy colluvium derived from sandstone and siltstone

Inclusions

- The well drained Laidig, Murrill, and Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Buchanan—2e; Andover—4w

Hydric soil: Buchanan—no; Andover—yes

BuC—Buchanan-Andover gravelly loams, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 60 percent

Andover soil: 30 percent

Inclusions: 10 percent

Typical Profile

Buchanan

0 to 7 inches; gravelly loam

7 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Andover

0 to 10 inches; gravelly loam

10 to 22 inches; silty clay loam

22 to 55 inches; gravelly loam

55 to 65 inches; gravelly loam

Soil Properties and Qualities

Buchanan

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Soil Survey of Clinton County, Pennsylvania

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium derived from sandstone and shale

Andover

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 25 inches to a fragipan

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Colluvium derived from sandstone and shale

Inclusions

- The well drained Laidig, Murrill, and Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- These soils are well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of these soils.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Buchanan—3e; Andover—4w

Hydric soil: Buchanan—no; Andover—yes

BxB—Buchanan-Andover gravelly loams, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 45 percent

Andover soil: 35 percent

Inclusions: 20 percent

Typical Profile

Buchanan

0 to 3 inches; gravelly loam

3 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Andover

0 to 8 inches; gravelly loam

8 to 22 inches; silty clay loam

22 to 55 inches; gravelly loam

55 to 65 inches; gravelly loam

Soil Properties and Qualities

Buchanan

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 36 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Soil Survey of Clinton County, Pennsylvania

Parent material: Stony colluvium derived from sandstone and shale

Andover

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Very low (about 3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 25 inches to a fragipan

Drainage class: Poorly drained (fig. 10)

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Colluvium derived from sandstone and shale

Inclusions

- The well drained Laidig, Murrill, and Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited



Figure 10.—The poorly drained Andover soil in a wooded area of Buchanan-Andover gravelly loams, 0 to 8 percent slopes, extremely stony.

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The wetness may limit the operation of logging trucks in areas of these soils.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of these soils limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: Buchanan—no; Andover—yes

BxC—Buchanan-Andover gravelly loams, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly concave footslopes on mountainsides and valley sides

Composition

Buchanan soil: 55 percent

Andover soil: 20 percent

Inclusions: 25 percent

Typical Profile

Buchanan

0 to 3 inches; gravelly loam

3 to 21 inches; gravelly loam

21 to 65 inches; cobbly clay loam

Andover

0 to 8 inches; gravelly loam

8 to 22 inches; silty clay loam

22 to 55 inches; gravelly loam

55 to 65 inches; gravelly loam

Soil Properties and Qualities

Buchanan

Slope: Strongly sloping and moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Soil Survey of Clinton County, Pennsylvania

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 20 to 36 inches to a fragipan
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 14 to 30 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter
Parent material: Stony colluvium derived from sandstone and shale

Andover

Slope: Strongly sloping and moderately steep
Depth class: Very deep
Available water capacity: Very low (about 3 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 18 to 25 inches to a fragipan
Drainage class: Poorly drained
Seasonal high water table: Within a depth of 6 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Very high
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter
Parent material: Colluvium derived from sandstone and shale

Inclusions

- The well drained Laidig, Murrill, and Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The wetness may limit the operation of logging trucks in areas of these soils.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: Buchanan—no; Andover—yes

CaB—Calvin channery silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex shoulders and summits of ridges in valleys

Composition

Calvin soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 1 inch; channery silt loam

1 to 3 inches; very channery silt loam

3 to 30 inches; very channery silt loam

30 to 40 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Moderately deep

Available water capacity: Very low (about 2.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Acid, reddish brown residuum derived from shale and siltstone

Inclusions

- The moderately well drained Hustontown, the well drained Leck Kill and Meckesville, and the somewhat excessively drained, shallow Klinesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; poorly suited to grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3s

Hydric soil: No

CaC—Calvin channery silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or convex shoulders and summits of ridges in valleys

Composition

Calvin soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 1 inch; channery silt loam

1 to 3 inches; very channery silt loam

3 to 30 inches; very channery silt loam

30 to 40 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Moderately deep

Soil Survey of Clinton County, Pennsylvania

Available water capacity: Very low (about 2.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Acid, reddish brown residuum derived from shale and siltstone

Inclusions

- The moderately well drained Hustontown, the well drained Leck Kill and Meckesville, and the somewhat excessively drained, shallow Klinesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and alfalfa hay; poorly suited to soybeans and grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4s

Hydric soil: No

CbC—Cedarcreek extremely channery loam, strongly sloping

Setting

Landscape position: Smooth or convex backslopes, shoulders, and summits of ridges on plateaus

Composition

Cedarcreek soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 24 inches; extremely channery loam

24 to 70 inches; extremely channery silty clay loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Very low (about 2.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 24 to 72 inches

Kind of water table: Apparent

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Mine spoil or earthy fill derived from sandstone and shale

Inclusions

- The well drained Aeric Epiaquents, the moderately well drained Cookport soils, and steep soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Well suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CbD—Cedarcreek extremely channery loam, moderately steep

Setting

Landscape position: Smooth or convex backslopes, shoulders, and summits of ridges on plateaus

Composition

Cedarcreek soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 24 inches; extremely channery loam

24 to 70 inches; extremely channery silty clay loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Very low (about 2.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 24 to 72 inches

Kind of water table: Apparent

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Mine spoil or earthy fill derived from sandstone and shale

Inclusions

- The well drained Aeric Epiaquents and Gilpin soils and steep soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Well suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CbE—Cedarcreek extremely channery loam, steep

Setting

Landscape position: Smooth or convex backslopes, shoulders, and summits of ridges on plateaus

Composition

Cedarcreek soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 24 inches; extremely channery loam

24 to 70 inches; extremely channery silty clay loam

Soil Properties and Qualities

Slope: Steep

Depth class: Very deep

Available water capacity: Very low (about 2.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Soil Survey of Clinton County, Pennsylvania

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Mine spoil or earthy fill derived from sandstone and shale

Inclusions

- The well drained Aeric Epiaquents and Gilpin soils, the moderately well drained Cookport soils, and moderately steep soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Well suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CcA—Chenango gravelly loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or convex terraces and alluvial fans in river valleys

Composition

Chenango soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; gravelly loam
8 to 27 inches; cobbly loam
27 to 65 inches; extremely cobbly loamy sand

Soil Properties and Qualities

Slope: Nearly level
Depth class: Very deep
Available water capacity: Low (about 4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Very low
Surface fragments: None
Parent material: Outwash derived from sandstone and siltstone

Inclusions

- The somewhat excessively drained Wyoming and the well drained Linden and Barbour soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and alfalfa hay; well suited to soybeans and grass-legume hay

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building site development

Management considerations:

- The high content of sand or gravel in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 2s

Hydric soil: No

CcB—Chenango gravelly loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex terraces and alluvial fans in river valleys

Composition

Chenango soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; gravelly loam

8 to 27 inches; cobbly loam

27 to 65 inches; extremely cobbly loamy sand

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Outwash derived from sandstone and siltstone

Inclusions

- The somewhat excessively drained Wyoming and the well drained Linden and Barbour soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

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

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The high content of sand or gravel in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 2s

Hydric soil: No

CdB—Clymer loam, 3 to 8 percent slopes

Setting

Landscape position: Gently sloping, convex ridges on plateaus

Composition

Clymer soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Hazleton and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

CdD—Clymer loam, 8 to 25 percent slopes

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; loam
2 to 28 inches; channery loam
28 to 50 inches; channery sandy loam
50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping or moderately steep
Depth class: Deep
Available water capacity: Low (about 4.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Hazleton and Laidig and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn and grass-legume hay; moderately suited to soybeans and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

CeA—Clymer channery loam, 0 to 3 percent slopes

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Hazleton and Hartleton and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

CeB—Clymer channery loam, 3 to 8 percent slopes

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Soil Survey of Clinton County, Pennsylvania

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Hazleton and Hartleton and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

CeC—Clymer channery loam, 8 to 15 percent slopes

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Hazleton and Hartleton and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

**CfB—Clymer channery loam, 0 to 8 percent slopes,
extremely stony**

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 70 percent

Inclusions: 30 percent

Typical Profile

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and shale

Inclusions

- The well drained Leetonia, Hazleton, and Hartleton and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CgB—Clymer-Cookport channery loams, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Convex ridges on plateaus

Composition

Clymer soil: 40 percent

Cookport soil: 35 percent

Inclusions: 25 percent

Typical Profile

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Cookport

0 to 8 inches; channery loam
8 to 22 inches; loam
22 to 46 inches; loam
46 to 54 inches; channery loam
54 to 64 inches; bedrock

Soil Properties and Qualities

Clymer

Slope: Nearly level and gently sloping
Depth class: Deep
Available water capacity: Low (about 4.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Low
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter
Parent material: Stony residuum derived from sandstone and shale

Cookport

Slope: Nearly level and gently sloping
Depth class: Deep
Available water capacity: Low (about 3.3 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 16 to 27 inches to a fragipan; 40 to 60 inches to bedrock (lithic)
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 10 to 21 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter
Parent material: Residuum derived from acid sandstone

Inclusions

- The moderately well drained Wharton and Buchanan and the well drained Hazleton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The excessive permeability of the Clymer soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Cookport soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

ChB—Clymer-Hazleton sandy loams, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Convex ridges on plateaus

Note: Many more rock fragments in the Hazleton soil than in the Clymer soil

Composition

Clymer soil: 50 percent

Hazleton soil: 35 percent

Inclusions: 15 percent

Typical Profile

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Soil Properties and Qualities

Clymer

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and shale

Hazleton

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone

Inclusions

- The well drained Leetonia and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to eastern white pine

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CmA—Comly silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of ridges

Composition

Comly soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 23 inches; channery silt loam

23 to 48 inches; very flaggy silt loam

48 to 65 inches; extremely flaggy silt loam

65 to 75 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 35 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 29 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Berks, Hartleton, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

CmB—Comly silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of ridges

Composition

Comly soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 23 inches; channery silt loam

23 to 48 inches; very flaggy silt loam

48 to 65 inches; extremely flaggy silt loam

65 to 75 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 35 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 29 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Berks, Hartleton, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

CmC—Comly silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of ridges

Composition

Comly soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 23 inches; channery silt loam

23 to 48 inches; very flaggy silt loam

48 to 65 inches; extremely flaggy silt loam

65 to 75 inches; weathered bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 35 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 29 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The well drained Berks, Hartleton, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

CnB—Cookport silt loam, 3 to 8 percent slopes

Setting

Landscape position: Slightly concave and smooth, broad summits and head slopes of ridges on plateaus

Composition

Cookport soil: 80 percent
Inclusions: 20 percent

Typical Profile

0 to 10 inches; silt loam
10 to 24 inches; channery loam
24 to 40 inches; channery loam
40 to 60 inches; very channery loam
60 to 64 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep

Available water capacity: Moderate (about 6.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 27 inches to a fragipan; more than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 16 to 25 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from acid sandstone

Inclusions

- The moderately well drained Wharton and Tilsit and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, wheat, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Moderately suited

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- No major hazards or limitations affect timber production.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

CoA—Cookport loam, 0 to 3 percent slopes

Setting

Landscape position: Slightly concave and smooth, broad summits and head slopes of ridges on plateaus

Composition

Cookport soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; loam

2 to 24 inches; channery loam

24 to 46 inches; channery loam

46 to 54 inches; channery sandy loam

54 to 64 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep

Available water capacity: Very low (about 2.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 27 inches to a fragipan; more than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 10 to 21 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Soil Survey of Clinton County, Pennsylvania

Parent material: Residuum derived from acid sandstone

Inclusions

- The poorly drained Andover, the moderately well drained Buchanan, and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

CoB—Cookport loam, 3 to 8 percent slopes

Setting

Landscape position: Slightly concave or smooth, broad summits and head slopes of ridges on plateaus

Composition

Cookport soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; loam
6 to 22 inches; channery clay loam
22 to 39 inches; channery sandy clay loam
39 to 48 inches; channery sandy loam
48 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping
Depth class: Deep
Available water capacity: Low (about 3 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 16 to 27 inches to a fragipan; 40 to 60 inches to bedrock (lithic)
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 10 to 21 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Surface fragments: None
Parent material: Residuum derived from acid sandstone

Inclusions

- The poorly drained Andover, the moderately well drained Buchanan, and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, wheat, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The low strength of this soil interferes with the construction of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of the soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

**CpB—Cookport channery loam, 0 to 8 percent slopes,
extremely stony**

Setting

Landscape position: Slightly concave or smooth, broad summits and head slopes of ridges on plateaus

Composition

Cookport soil: 70 percent

Inclusions: 30 percent

Typical Profile

0 to 8 inches; channery loam
8 to 23 inches; channery loam
23 to 40 inches; channery sandy clay loam
40 to 46 inches; channery sandy loam
46 to 50 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Low (about 5.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 27 inches to a fragipan; 40 to 60 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 15 to 22 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Residuum derived from acid sandstone

Inclusions

- The poorly drained Andover, the moderately well drained Buchanan and Wharton, and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

CpD—Cookport channery loam, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Slightly concave or smooth head slopes of ridges on plateaus

Composition

Cookport soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 8 inches; channery loam
8 to 23 inches; channery loam
23 to 40 inches; channery sandy clay loam
40 to 46 inches; channery sandy loam
46 to 50 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping or moderately steep

Depth class: Deep

Available water capacity: Low (about 5.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 27 inches to a fragipan; more than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 15 to 22 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Residuum derived from acid sandstone

Inclusions

- The moderately well drained Buchanan and Wharton and the well drained Clymer and Hazleton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The low strength of this soil interferes with the construction of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

Cr—Craigsville gravelly loam

Setting

Landscape position: Smooth steps on flood plains

Composition

Craigsville soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 5 inches; gravelly loam

5 to 32 inches; very gravelly loam

32 to 65 inches; extremely gravelly sandy loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 5.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Negligible

Surface fragments: None

Parent material: Alluvium derived from sandstone and shale

Inclusions

- The well drained Barbour and Linden and the moderately well drained Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Poorly suited to corn, soybeans, grass-legume hay, and alfalfa hay

Pasture

Suitability: Well suited

Woodland

Suitability: Well suited to northern red oak

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 2s

Hydric soil: No

DAM—Dam

This map unit consists of constructed barriers built across a watercourse for impounding or diverting the flow of water. The barrier consists of earth, rock, or concrete and is designed to form a basin and hold water back to make a pond, lake, or reservoir.

Fr—Freetown mucky peat

Setting

Landscape position: Concave bogs on plateaus

Composition

Freetown soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 12 inches; mucky peat

12 to 65 inches; muck

Soil Properties and Qualities

Slope: Level

Depth class: Very deep

Available water capacity: Very high (about 23.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Unspecified

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Very poorly drained

Seasonal high water table: At the surface

Kind of water table: Apparent

Flooding: None

Hazard of ponding: Frequent

Depth of ponding: At the surface to about 9 inches above the surface

Shrink-swell potential: Low

Surface runoff class: Negligible

Surface fragments: None

Parent material: Woody organic material

Inclusions

- The poorly drained Nolo soils and other very poorly drained organic soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This soil is typically not used as woodland.

Building site development

Management considerations:

- The ponding is a limitation affecting building site development.

Septic tank absorption fields

Management considerations:

- The ponding is a limitation on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 5w

Hydric soil: Yes

GpB—Gilpin silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex mountain slopes and plateaus

Composition

Gilpin soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 3 inches; silt loam

3 to 11 inches; channery silt loam

11 to 29 inches; channery silty clay loam

29 to 39 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Moderately deep

Available water capacity: Low (about 3.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- The moderately well drained Wharton, Tilsit, and Cookport and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Well suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

GpC—Gilpin silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or convex mountain slopes and plateaus

Composition

Gilpin soil: 75 percent
Inclusions: 25 percent

Typical Profile

0 to 3 inches; silt loam
3 to 11 inches; channery silt loam
11 to 29 inches; silty clay loam
29 to 39 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping
Depth class: Moderately deep
Available water capacity: Low (about 3.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Inclusions

- The moderately well drained Wharton, Tilsit, and Cookport and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Excessive permeability increases the risk of ground water contamination.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Well suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

GwD—Gilpin-Wharton silt loams, 15 to 25 percent slopes

Setting

Landscape position: Smooth or convex mountain slopes and plateaus

Composition

Gilpin soil: 50 percent

Wharton soil: 30 percent

Inclusions: 20 percent

Typical Profile

Gilpin

0 to 3 inches; silt loam

3 to 11 inches; channery silt loam

11 to 29 inches; silty clay loam

29 to 39 inches; bedrock

Wharton

0 to 4 inches; silt loam

4 to 20 inches; silt loam

20 to 45 inches; channery silt loam

45 to 65 inches; very channery loam

Soil Properties and Qualities

Gilpin

Slope: Moderately steep

Depth class: Moderately deep

Available water capacity: Low (about 3.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Soil Survey of Clinton County, Pennsylvania

Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Wharton

Slope: Moderately steep
Depth class: Very deep
Available water capacity: Low (about 5.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 61 to 120 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 15 to 30 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Moderate
Surface runoff class: Very high
Surface fragments: None
Parent material: Residuum derived from shale and siltstone

Inclusions

- The moderately well drained Tilsit and Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock restricts the rooting depth of crops.
- Excessive permeability increases the risk of ground water contamination.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Well suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in these soils.

- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The moderate permeability limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- Because of the limited depth to bedrock in areas of the Gilpin soil, this map unit is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

HeA—Hagerstown silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth, low ridges in valleys

Note: Sinkholes in some areas; limestone rock outcrop common

Composition

Hagerstown soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 9 inches; silt loam

9 to 14 inches; silty clay loam

14 to 44 inches; clay

44 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- The well drained, shallow Opequon and the well drained Timberville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The high clay content restricts the rooting depth of crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

Management considerations:

- This soil is typically not used as woodland.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

HeB—Hagerstown silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth, low ridges in valleys

Note: Sinkholes in some places; limestone rock outcrop common

Composition

Hagerstown soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 9 inches; silt loam

9 to 14 inches; silty clay loam

14 to 44 inches; clay

44 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- The well drained, shallow Opequon and the well drained Timberville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Management considerations:

- This soil is not typically used as woodland.
- The slope may restrict the use of some mechanical planting equipment.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

HeC—Hagerstown silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth, low ridges in valleys

Note: Sinkholes in some places; limestone rock outcrop common

Composition

Hagerstown soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 14 inches; silty clay loam

14 to 44 inches; clay

44 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- The well drained, shallow Opequon soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

HfB—Hagerstown silty clay loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth, low ridges in valleys

Note: Sinkholes in some areas; limestone rock outcrop common

Composition

Hagerstown soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 14 inches; silty clay loam

14 to 44 inches; clay

44 to 60 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Soil Survey of Clinton County, Pennsylvania

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- The well drained, shallow Opequon soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- 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

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

HgC—Hagerstown-Opequon silty clay loams, 8 to 15 percent slopes, rocky

Setting

Landscape position: Smooth or convex slopes on ridges in valleys

Note: Sinkholes in some areas; limestone rock outcrop common

Composition

Hagerstown soil: 60 percent

Opequon soil: 30 percent

Inclusions: 10 percent

Typical Profile

Hagerstown

0 to 6 inches; silty clay loam

6 to 18 inches; silty clay loam

18 to 42 inches; clay

42 to 60 inches; bedrock

Opequon

0 to 7 inches; silty clay loam

7 to 14 inches; clay loam

14 to 24 inches; bedrock

Soil Properties and Qualities

Hagerstown

Slope: Strongly sloping

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from limestone

Opequon

Slope: Strongly sloping

Depth class: Shallow (fig. 11)

Available water capacity: Very low (about 2.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 12 to 24 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: High

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from limestone



Figure 11.—The shallow Opequon soil in an area of Hagerstown-Opequon silty clay loams, 8 to 15 percent slopes, rocky.

Inclusions

- Rock outcrop; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The rock outcrop may limit the use of machinery.
- The high clay content restricts the rooting depth of crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The rock outcrop may limit the use of machinery.

Woodland

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

Management considerations:

- The low strength of these soils interferes with the construction of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.
- Because of the rock outcrop, rock removal may be needed.

Septic tank absorption fields

Management considerations:

- The restricted permeability of these soils limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the Opequon soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.
- Because of the rock outcrop, special design of septic tank absorption fields is needed.

Interpretive Groups

Land capability classification: Hagerstown—3e; Opequon—4e

Hydric soil: No

HhA—Hartleton channery silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes of ridges in valleys

Composition

Hartleton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; channery silt loam

8 to 34 inches; very channery silt loam

34 to 48 inches; extremely channery silt loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Berks, Clymer, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and eastern white pine; well suited to chestnut oak

Management considerations:

- The rock fragments make the use of mechanical planting equipment impractical.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2s

Hydric soil: No

HhB—Hartleton channery silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes of ridges in valleys

Composition

Hartleton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; channery silt loam

8 to 34 inches; very channery silt loam

34 to 48 inches; extremely channery silt loam
48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Berks, Clymer, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and eastern white pine; well suited to chestnut oak

Management considerations:

- The low strength of this soil interferes with the construction of haul roads and log landings.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

HhC—Hartleton channery silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes of ridges in valleys

Composition

Hartleton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; channery silt loam

8 to 34 inches; very channery silt loam

34 to 48 inches; extremely channery silt loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Berks, Clymer, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak and eastern white pine; well suited to chestnut oak

Management considerations:

- The low strength of this soil interferes with the construction of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

HjC—Hazleton channery sandy loam, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Convex summits, shoulders, and backslopes on mountains

Composition

Hazleton soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 3 inches; channery sandy loam
3 to 42 inches; channery sandy loam
42 to 58 inches; very channery sandy loam
58 to 68 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Soil Survey of Clinton County, Pennsylvania

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter (fig. 12)

Parent material: Stony residuum derived from sandstone

Inclusions

- The well drained Clymer and Laidig, the moderately well drained Cookport, and the excessively drained Leetonia soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.



Figure 12.—A wooded area of Hazleton channery sandy loam, 8 to 25 percent slopes, extremely stony.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

HkE—Hazleton channery sandy loam, 25 to 80 percent slopes, rubbly

Setting

Landscape position: Convex backslopes on mountains

Composition

Hazleton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Soil Properties and Qualities

Slope: Steep and very steep

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 15 to 50 percent covered by rock rubble or with stones, which are 15 to 24 inches in diameter

Parent material: Rubbly residuum derived from sandstone

Inclusions

- The well drained Clymer and Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak; well suited to chestnut oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

HIB—Hazleton-Clymer channery loams, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes on mountain ridges

Note: A much higher content of rock fragments in the Hazleton soil than in the Clymer soil

Composition

Hazleton soil: 40 percent

Clymer soil: 40 percent

Inclusions: 20 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

Soil Survey of Clinton County, Pennsylvania

42 to 58 inches; very channery sandy loam
58 to 68 inches; bedrock

Clymer

0 to 2 inches; loam
2 to 28 inches; channery loam
28 to 50 inches; channery sandy loam
50 to 60 inches; bedrock

Soil Properties and Qualities

Hazleton

Slope: Gently sloping
Depth class: Deep or very deep
Available water capacity: Low (about 5.7 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: High (about 2 inches per hour)
Depth to root restrictive feature: More than 60 inches to bedrock
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Low
Surface fragments: None
Parent material: Residuum derived from sandstone

Clymer

Slope: Gently sloping
Depth class: Deep or very deep
Available water capacity: Low (about 4.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from sandstone and shale

Inclusions

- The moderately well drained Cookport and Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak and eastern white pine

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

HIC—Hazleton-Clymer channery loams, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes on mountain ridges

Note: Many more rock fragments in the Hazleton soil than in the Clymer soil

Composition

Hazleton soil: 40 percent

Clymer soil: 40 percent

Inclusions: 20 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Hazleton

Slope: Strongly sloping

Soil Survey of Clinton County, Pennsylvania

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from sandstone

Clymer

Slope: Strongly sloping

Depth class: Deep or very deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from sandstone and shale

Inclusions

- The moderately well drained Cookport and Buchanan and the well drained Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak and eastern white pine

Management considerations:

- These soils are well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

HID—Hazleton-Clymer channery loams, 15 to 25 percent slopes

Setting

Landscape position: Smooth or slightly convex backslopes on mountain ridges

Note: Many more rock fragments in the Hazleton soil than in the Clymer soil

Composition

Hazleton soil: 40 percent

Clymer soil: 40 percent

Inclusions: 20 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Hazleton

Slope: Moderately steep

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Soil Survey of Clinton County, Pennsylvania

Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from sandstone

Clymer

Slope: Moderately steep
Depth class: Deep or very deep
Available water capacity: Low (about 4.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: High
Surface fragments: None
Parent material: Residuum derived from sandstone and shale

Inclusions

- The well drained Laidig and the moderately well drained Cookport and Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay
Management considerations:

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

Pasture

Suitability: Well suited
Management considerations:

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

Woodland

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

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in these soils.
- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

HmB—Hazleton-Clymer channery loams, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly convex shoulders and backslopes on mountain ridges

Note: Many more rock fragments in the Hazleton soil than in the Clymer soil

Composition

Hazleton soil: 45 percent

Clymer soil: 40 percent

Inclusions: 15 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Hazleton

Slope: Nearly level and gently sloping

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Soil Survey of Clinton County, Pennsylvania

Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Very low
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter
Parent material: Stony residuum derived from sandstone

Clymer

Slope: Nearly level and gently sloping
Depth class: Deep or very deep
Available water capacity: Low (about 4.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Low
Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter
Parent material: Stony residuum derived from sandstone and shale

Inclusions

- The moderately well drained Cookport and Buchanan and the well drained Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

HmD—Hazleton-Clymer channery loams, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly convex backslopes on mountain ridges

Note: Many more rock fragments in the Hazleton soil than in the Clymer soil

Composition

Hazleton soil: 50 percent

Clymer soil: 30 percent

Inclusions: 20 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Clymer

0 to 2 inches; loam

2 to 28 inches; channery loam

28 to 50 inches; channery sandy loam

50 to 60 inches; bedrock

Soil Properties and Qualities

Hazleton

Slope: Strongly sloping and moderately steep

Depth class: Deep or very deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone

Clymer

Slope: Strongly sloping and moderately steep

Depth class: Deep or very deep

Available water capacity: Low (about 4.4 inches in a 60-inch profile)

Soil Survey of Clinton County, Pennsylvania

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and shale

Inclusions

- The well drained Laidig, the excessively drained Leetonia, and the moderately well drained Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in the soils.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- The excessive permeability of the Hazleton soil limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The moderate permeability of the Clymer soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

**HoF—Hazleton-Laidig complex, 25 to 50 percent slopes,
extremely stony**

Setting

Landscape position: Smooth or slightly convex backslopes on mountainsides

Composition

Hazleton soil: 35 percent

Laidig soil: 35 percent

Inclusions: 30 percent

Typical Profile

Hazleton

0 to 3 inches; channery sandy loam

3 to 42 inches; channery sandy loam

42 to 58 inches; very channery sandy loam

58 to 68 inches; bedrock

Laidig

0 to 3 inches; extremely stony loam

3 to 34 inches; gravelly silt loam

34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Hazleton

Slope: Steep and very steep

Depth class: Deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

*Percentage of the surface covered by rock fragments: About 3 to 15 percent
covered by stones, which are 10 to 24 inches in diameter*

Parent material: Stony residuum derived from sandstone

Laidig

Slope: Steep and very steep

Depth class: Very deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

*Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per
hour)*

*Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to
bedrock (lithic)*

Drainage class: Well drained

Soil Survey of Clinton County, Pennsylvania

Depth to the seasonal high water table: About 27 to 47 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 10 to 24 inches in diameter

Parent material: Stony colluvium derived from sandstone and shale

Inclusions

- The well drained Clymer soils and the Hazleton and Laidig soils that are not stony; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar; well suited to chestnut oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soils can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table of the Laidig soil greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

HuB—Hustontown silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of valley sides

Composition

Hustontown soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 7 inches; silt loam

7 to 24 inches; silt loam

24 to 30 inches; channery silt loam

30 to 65 inches; channery silt loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 18 to 32 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 26 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Red residuum derived from sandstone and shale

Inclusions

- The well drained Meckesville, Leck Kill, and Ungers soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

HuC—Hustontown silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of valley sides

Composition

Hustontown soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silt loam

7 to 24 inches; silt loam

24 to 30 inches; channery silt loam

30 to 65 inches; channery silt loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 18 to 32 inches to a fragipan

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 26 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Red residuum derived from sandstone and shale

Inclusions

- The well drained Meckesville, Leck Kill, and Ungers soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

HuD—Hustontown silt loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes of valley sides

Composition

Hustontown soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 7 inches; silt loam

7 to 24 inches; silt loam

24 to 30 inches; channery silt loam

30 to 65 inches; channery silt loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 18 to 32 inches to abrupt textural change

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 26 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Red residuum derived from sandstone and shale

Inclusions

- The well drained Meckesville and Leck Kill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.

- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to yellow-poplar

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The wetness may limit the operation of logging trucks in areas of this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

KcD—Klinesville channery silt loam, 15 to 25 percent slopes

Setting

Landscape position: Convex backslopes and shoulders of ridges in valleys

Composition

Klinesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; channery silt loam

3 to 15 inches; channery silt loam

Soil Survey of Clinton County, Pennsylvania

15 to 17 inches; very flaggy silt loam
17 to 27 inches; bedrock

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Shallow

Available water capacity: Very low (about 1.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Somewhat excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Reddish residuum derived from shale and siltstone

Inclusions

- The well drained Calvin, Leck Kill, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 6e

Hydric soil: No

KcE—Klinesville channery silt loam, 25 to 80 percent slopes

Setting

Landscape position: Convex backslopes of ridges in valleys

Composition

Klinesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; channery silt loam

3 to 15 inches; channery silt loam

15 to 17 inches; very flaggy silt loam

17 to 27 inches; bedrock

Soil Properties and Qualities

Slope: Steep and very steep

Depth class: Shallow

Available water capacity: Very low (about 1.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Somewhat excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Reddish residuum derived from shale and siltstone

Inclusions

- The well drained Calvin, Leck Kill, and Weikert soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The limited depth to soft bedrock reduces the ease of excavation and increases the difficulty of constructing foundations and installing utilities.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7e

Hydric soil: No

KrA—Kreamer silt loam, 0 to 3 percent slopes

Setting

Landscape position: Concave footslopes along valley floors

Composition

Kreamer soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; silt loam

8 to 48 inches; clay loam

48 to 65 inches; silty clay

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 15 to 24 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: High

Soil Survey of Clinton County, Pennsylvania

Surface fragments: None

Parent material: Colluvium derived from limestone

Inclusions

- The well drained Hagerstown and Opequon and the moderately well drained Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The high clay content restricts the rooting depth of crops.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- 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

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

LaB—Laidig gravelly loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes and backslopes on the lower mountainsides and valley sides

Composition

Laidig soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; extremely stony loam
3 to 34 inches; gravelly silt loam
34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Slope: Gently sloping
Depth class: Very deep
Available water capacity: Low (about 3.9 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: About 27 to 47 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Sandstone, siltstone, and shale colluvium

Inclusions

- The moderately well drained Buchanan, the poorly drained Andover, and the well drained Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; well suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

LaC—Laidig gravelly loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes and backslopes on the lower mountainsides and valley sides

Composition

Laidig soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; extremely stony loam

3 to 34 inches; gravelly silt loam

34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 47 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale

Inclusions

- The moderately well drained Buchanan, poorly drained Andover, and well drained Murrill and Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

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

Soil Survey of Clinton County, Pennsylvania

- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

LaD—Laidig gravelly loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes and backslopes on the lower mountainsides and valley sides

Composition

Laidig soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; extremely stony loam

3 to 34 inches; gravelly silt loam

34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Soil Survey of Clinton County, Pennsylvania

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 47 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale

Inclusions

- The moderately well drained Buchanan and the well drained Murrill and Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

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

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

LdB—Laidig gravelly loam, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Smooth or slightly convex footslopes and backslopes on the lower mountainsides and valley sides

Composition

Laidig soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; extremely stony loam

3 to 34 inches; gravelly silt loam

34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 47 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Colluvium derived from stony sandstone, siltstone, and shale

Inclusions

- The moderately well drained Buchanan, the poorly drained Andover, and the well drained Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

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

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

**LdC—Laidig gravelly loam, 8 to 25 percent slopes,
extremely stony**

Setting

Landscape position: Smooth or slightly convex footslopes and backslopes on the lower mountainsides and valley sides

Composition

Laidig soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 3 inches; extremely stony loam

3 to 34 inches; gravelly silt loam

34 to 65 inches; channery silty clay loam

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Very deep

Available water capacity: Low (about 3.9 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 30 to 50 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 47 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony colluvium derived from sedimentary rock

Inclusions

- The moderately well drained Buchanan and the well drained Clymer, Hazleton, and Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

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

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

LkB—Leck Kill channery silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or convex shoulders and backslopes on mountains and ridges

Composition

Leck Kill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; channery silt loam

6 to 39 inches; channery silt loam

39 to 42 inches; very flaggy loam

42 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep

Available water capacity: Low (about 5.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Fine grained sandstone and shale residuum

Inclusions

- The well drained Calvin and Ungers and the somewhat excessively drained Klinesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; well suited to soybeans

Management considerations:

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

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

LkC—Leck Kill channery silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or convex shoulders and backslopes on mountains and ridges

Composition

Leck Kill soil: 80 percent
Inclusions: 20 percent

Typical Profile

0 to 6 inches; channery silt loam
6 to 39 inches; channery silt loam
39 to 42 inches; very flaggy loam
42 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Deep

Available water capacity: Low (about 5.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Fine grained sandstone and shale residuum

Inclusions

- The well drained Calvin and Ungers and the somewhat excessively drained Klinesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

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

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

LkD—Leck Kill channery silt loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or convex backslopes on mountains and ridges

Composition

Leck Kill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; channery silt loam

6 to 39 inches; channery silt loam

39 to 42 inches; very flaggy loam

42 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Deep

Available water capacity: Low (about 5.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Fine grained sandstone and shale residuum

Inclusions

- The well drained Calvin and Ungers and the somewhat excessively drained Klinsville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

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

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

LkE—Leck Kill channery silt loam, 25 to 35 percent slopes

Setting

Landscape position: Smooth or convex backslopes on mountains and ridges

Composition

Leck Kill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; channery silt loam

6 to 39 inches; channery silt loam

39 to 42 inches; very flaggy loam

42 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Steep

Depth class: Deep

Available water capacity: Low (about 5.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Fine grained sandstone and shale residuum

Inclusions

- The well drained Calvin and Ungers and the somewhat excessively drained Klinesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The slope may restrict the use of some farm equipment.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 6e

Hydric soil: No

LmD—Leck Kill channery silt loam, 8 to 25 percent slopes, very stony

Setting

Landscape position: Smooth or convex backslopes on mountains and ridges

Composition

Leck Kill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 3 inches; channery silt loam

3 to 39 inches; channery silt loam

39 to 42 inches; very flaggy loam

42 to 52 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Deep

Available water capacity: Low (about 5.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and shale

Inclusions

- The well drained Calvin and Meckesville soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 6s

Hydric soil: No

LnB—Leetonia channery sandy loam, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Smooth or convex summits and shoulders of narrow ridges on plateaus

Composition

Leetonia soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 2 inches; extremely stony sandy loam
2 to 16 inches; channery loamy coarse sand
16 to 36 inches; very channery coarse sand
36 to 48 inches; very channery coarse sand
48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Very low (about 1.6 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained to excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone

Inclusions

- The well drained Hazleton and Clymer and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Poorly suited to chestnut oak

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The high content of sand or gravel in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

LnC—Leetonia channery sandy loam, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Smooth or convex shoulders and backslopes of narrow ridges on plateaus

Composition

Leetonia soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 2 inches; extremely stony coarse sand
2 to 16 inches; channery loamy coarse sand
16 to 36 inches; very channery coarse sand
36 to 48 inches; very channery coarse sand
48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Deep

Available water capacity: Very low (about 1.6 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained to excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone

Inclusions

- The well drained Hazleton and Clymer and the moderately well drained Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Poorly suited to northern red oak

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The high content of sand or gravel in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

Lo—Linden silt loam, occasionally flooded

Setting

Landscape position: Flood plains, mostly along the Susquehanna River valley

Composition

Linden soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 12 inches; silt loam

12 to 48 inches; gravelly silt loam

48 to 70 inches; sandy loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Inclusions

- The well drained Barbour and the moderately well drained Philo and Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

Lr—Linden silt loam, rarely flooded

Setting

Landscape position: Flood plains, mostly along the Susquehanna River valley

Composition

Linden soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 12 inches; silt loam

12 to 48 inches; gravelly silt loam

48 to 70 inches; sandy loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Inclusions

- The well drained Barbour and the moderately well drained Philo and Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay (fig. 13); moderately suited to alfalfa hay



Figure 13.—An area of Linden silt loam, rarely flooded, used for corn. This soil is considered to be prime farmland.

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

MeB—Meckesville silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountains

Composition

Meckesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam

4 to 35 inches; channery silt loam

35 to 66 inches; channery silt loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 30 to 48 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 45 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale

Inclusions

- The well drained Leck Kill and Ungers soils and somewhat poorly drained or moderately well drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and alfalfa hay; well suited to soybeans and grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

MeC—Meckesville silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes on mountains

Composition

Meckesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam

4 to 35 inches; channery silt loam

35 to 66 inches; channery silt loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 30 to 48 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 45 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale

Inclusions

- The well drained Leck Kill and Ungers soils and somewhat poorly drained or moderately well drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

MeD—Meckesville silt loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or slightly concave footslopes and the lower side slopes on mountains

Composition

Meckesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam

4 to 35 inches; channery silt loam

35 to 66 inches; channery silt loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 30 to 48 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 45 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium from sandstone, siltstone, and shale

Inclusions

- The well drained Leck Kill and Ungers soils and somewhat poorly drained or moderately well drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

MhD—Meckesville channery loam, 8 to 25 percent slopes, very stony

Setting

Landscape position: Smooth or slightly concave footslopes and the lower side slopes on mountains

Composition

Meckesville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam

4 to 35 inches; channery silt loam

35 to 66 inches; channery silt loam

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 30 to 48 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 27 to 45 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Colluvium derived from stony sandstone, siltstone, and shale

Inclusions

- The well drained Laidig and Ungers soils and somewhat poorly drained or moderately well drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

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

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 6s

Hydric soil: No

Mn—Melvin and Newark silt loams

Setting

Landscape position: Concave areas on flood plains

Composition

Melvin soil: 40 percent

Newark soil: 40 percent

Inclusions: 20 percent

Typical Profile

Melvin

0 to 12 inches; silt loam

12 to 36 inches; silt loam

36 to 60 inches; gravelly loam

Newark

0 to 8 inches; silt loam

Soil Survey of Clinton County, Pennsylvania

8 to 39 inches; silty clay loam
39 to 60 inches; very gravelly silt loam

Soil Properties and Qualities

Melvin

Slope: Nearly level

Depth class: Very deep

Available water capacity: Very high (about 12.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Newark

Slope: Nearly level

Depth class: Very deep

Available water capacity: High (about 12 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 119 inches to bedrock (lithic)

Drainage class: Somewhat poorly drained

Depth to the seasonal high water table: About 12 to 19 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Inclusions

- The poorly drained Atkins, the very poorly drained Purdy, and the moderately well drained Philo soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and soybeans; well suited to grass-legume hay

Management considerations:

- Operating equipment when the soils are wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.

- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.
- Grazing when the soils are wet can result in surface compaction.

Woodland

Suitability: Moderately suited to sweetgum

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.
- The wetness may limit the operation of logging trucks in areas of these soils.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Melvin—3w; Newark—2w

Hydric soil: Melvin—yes; Newark—no

MoB—Morrison channery sandy loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex backslopes and summits of ridges in valleys

Composition

Morrison soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 1 inch; channery sandy loam

1 to 65 inches; sandy clay

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Moderate (about 6 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from limestone and sandstone

Inclusions

- The well drained Hagerstown and Opequon soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

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

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

MoC—Morrison channery sandy loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly convex backslopes and summits of ridges in valleys

Composition

Morrison soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 1 inch; channery sandy loam

1 to 65 inches; sandy clay

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Soil Survey of Clinton County, Pennsylvania

Available water capacity: Moderate (about 6 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Low
Surface fragments: None
Parent material: Residuum derived from limestone and sandstone

Inclusions

- The well drained Hagerstown and Opequon soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

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

Pasture

Suitability: Moderately suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- The slope may restrict the use of some mechanical planting equipment.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

MuA—Murrill silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes of valley sides and fans

Composition

Murrill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; silt loam
8 to 52 inches; gravelly silt loam
52 to 72 inches; silty clay loam

Soil Properties and Qualities

Slope: Nearly level
Depth class: Very deep
Available water capacity: Moderate (about 7.2 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)
Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Moderate
Surface runoff class: Low
Surface fragments: None
Parent material: Colluvium derived from sandstone, siltstone, and shale underlain by limestone residuum derived from sedimentary rock

Inclusions

- The moderately well drained Buchanan and the well drained Hagerstown and Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

Suitability: Moderately suited to northern red oak, yellow-poplar, and eastern white pine

Management considerations:

- No major hazards or limitations affect timber production.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

MuB—Murrill silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes of valley sides and fans

Composition

Murrill soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 8 inches; silt loam

8 to 52 inches; gravelly silt loam

52 to 72 inches; silty clay loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Moderate (about 7.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale underlain by limestone residuum derived from sedimentary rock

Inclusions

- The moderately well drained Buchanan and the well drained Hagerstown and Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak, yellow-poplar, and eastern white pine

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

MuC—Murrill silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes of valley sides and fans

Composition

Murrill soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 8 inches; silt loam

8 to 52 inches; gravelly silt loam

52 to 72 inches; silty clay loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Moderate (about 7.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale underlain by limestone residuum derived from sedimentary rock

Inclusions

- The moderately well drained Buchanan and the well drained Hagerstown and Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn and soybeans; moderately suited to grass-legume hay and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak, yellow-poplar, and eastern white pine

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

MuD—Murrill silt loam, 15 to 25 percent slopes

Setting

Landscape position: Smooth or slightly convex footslopes of valley sides and fans

Composition

Murrill soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 8 inches; silt loam

8 to 52 inches; gravelly silt loam

52 to 72 inches; silty clay loam

Soil Properties and Qualities

Slope: Moderately steep

Depth class: Very deep

Available water capacity: Moderate (about 7.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Soil Survey of Clinton County, Pennsylvania

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: High

Surface fragments: None

Parent material: Colluvium derived from sandstone, siltstone, and shale underlain by limestone residuum derived from sedimentary rock

Inclusions

- The moderately well drained Buchanan and the well drained Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn; moderately suited to soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak, yellow-poplar, and eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4e

Hydric soil: No

NoA—Nolo silt loam, 0 to 3 percent slopes

Setting

Landscape position: Depressions on plateaus

Composition

Nolo soil: 80 percent
Inclusions: 20 percent

Typical Profile

0 to 5 inches; stony silt loam
5 to 19 inches; channery silt loam
19 to 44 inches; channery loam
44 to 54 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep

Available water capacity: Low (about 3.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 30 inches to a fragipan; 40 to 60 inches to bedrock (paralithic)

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Residuum derived from interbedded sandstone, siltstone, and shale

Inclusions

- The moderately well drained Cookport and Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and grass-legume hay; poorly suited to soybeans

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Frost action may damage the root system of winter grain crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Moderately suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.

- The dense soil layer may restrict the rooting depth of plants.
- Frost action may damage the root system of plants.

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4w

Hydric soil: Yes

NsA—Nolo silt loam, 0 to 3 percent slopes, extremely stony

Setting

Landscape position: Depressions on plateaus

Composition

Nolo soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 5 inches; stony silt loam

5 to 19 inches; channery silt loam

19 to 44 inches; channery loam

44 to 54 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep

Available water capacity: Low (about 3.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 16 to 30 inches to a fragipan; 40 to 60 inches to bedrock (paralithic)

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from interbedded sandstone, siltstone, and shale

Inclusions

- The moderately well drained Cookport and Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This soil is not typically used as woodland.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: Yes

OeE—Opequon silty clay loam, 25 to 60 percent slopes, very rocky

Setting

Landscape position: Convex backslopes of ridges in valleys

Note: Limestone outcroppings common

Composition

Opequon soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silty clay loam

7 to 14 inches; clay loam

14 to 24 inches; bedrock

Soil Properties and Qualities

Slope: Steep and very steep

Depth class: Shallow

Available water capacity: Very low (about 2.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 12 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: High

Surface runoff class: High

Surface fragments: None

Parent material: Rocky residuum derived from limestone and dolomite

Inclusions

- The well drained Laidig and Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- Rocks may need to be removed in areas of the rock outcrop.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this soil is unsuited to conventional septic tank absorption fields.
- Because of the rock outcrop, special design of absorption fields is needed.

Interpretive Groups

Land capability classification: 7e

Hydric soil: No

OhD—Opequon-Hagerstown silty clay loams, 15 to 25 percent slopes

Setting

Landscape position: Smooth or convex backslopes of ridges in valleys

Composition

Opequon soil: 70 percent

Hagerstown soil: 20 percent

Inclusions: 10 percent

Typical Profile

Opequon

0 to 7 inches; silty clay loam

7 to 14 inches; clay loam

14 to 24 inches; bedrock

Hagerstown

0 to 9 inches; silty clay loam

9 to 14 inches; silty clay loam

14 to 44 inches; clay

44 to 60 inches; bedrock

Soil Properties and Qualities

Opequon

Slope: Moderately steep

Depth class: Shallow

Available water capacity: Very low (about 2.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 12 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: High

Surface runoff class: High

Surface fragments: None

Parent material: Residuum derived from limestone and dolomite

Hagerstown

Slope: Moderately steep

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: High

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

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

- The bedrock may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The bedrock may interfere with the construction of haul roads and log landings.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- Shrinking and swelling of the soils may crack foundations and basement walls.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- 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

Management considerations:

- The limited depth to bedrock in areas of the Opequon soil reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- Because of the limited depth to bedrock in areas of the Opequon soil, this map unit is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 6e

Hydric soil: No

OsD—Opequon-Hagerstown silty clay loams, 15 to 25 percent slopes, rocky

Setting

Landscape position: Smooth or convex backslopes of ridges in valleys

Note: Rocks on the soil surface; limestone outcroppings common

Composition

Opequon soil: 70 percent

Hagerstown soil: 20 percent

Inclusions: 10 percent

Typical Profile

Opequon

0 to 7 inches; silty clay loam

7 to 14 inches; clay loam

14 to 24 inches; bedrock

Hagerstown

0 to 9 inches; silty clay loam

9 to 14 inches; silty clay loam
14 to 44 inches; clay
44 to 60 inches; bedrock

Soil Properties and Qualities

Opequon

Slope: Moderately steep

Depth class: Shallow

Available water capacity: Very low (about 2.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 12 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: High

Surface runoff class: High

Surface fragments: None

Parent material: Rocky residuum derived from limestone and dolomite

Hagerstown

Slope: Moderately steep

Depth class: Deep or very deep

Available water capacity: Moderate (about 7.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: High

Surface fragments: None

Parent material: Residuum derived from limestone

Inclusions

- Murrill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The bedrock may restrict the rooting depth of plants.
- The rock outcrop may limit the use of machinery.

Woodland

Suitability: Moderately suited to northern red oak

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The bedrock may interfere with the construction of haul roads and log landings.

- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- Shrinking and swelling of the soils may crack foundations and basement walls.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.
- Rocks may need to be removed in areas of the rock outcrop.

Septic tank absorption fields

Management considerations:

- The limited depth to bedrock in the Opequon soil reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- Because of the limited depth to bedrock in the Opequon soil, this map unit is unsuited to conventional septic tank absorption fields.
- Because of the rock outcrop, special design of septic tank absorption fields is needed.

Interpretive Groups

Land capability classification: 6e

Hydric soil: No

PaE—Pennval silt loam, 15 to 35 percent slopes, very stony

Setting

Landscape position: Smooth footslopes of valley sides

Composition

Pennval soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 5 inches; silt loam

5 to 29 inches; gravelly silt loam

29 to 73 inches; gravelly clay loam

73 to 88 inches; extremely channery clay loam

Soil Properties and Qualities

Slope: Moderately steep and steep

Depth class: Very deep

Available water capacity: Moderate (about 7.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Soil Survey of Clinton County, Pennsylvania

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Colluvium derived from sandstone, siltstone, and shale

Inclusions

- The well drained Berks, Laidig, and Weikert and the moderately well drained Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

Pb—Philo silt loam

Setting

Landscape position: Flood plains in river valleys

Composition

Philo soil: 75 percent

Inclusions: 25 percent

Typical Profile

0 to 10 inches; silt loam

10 to 40 inches; silt loam

40 to 65 inches; very gravelly sandy loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 7.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 11 to 24 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Inclusions

- The well drained Linden and Barbour, the poorly drained Atkins, and the moderately well drained Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.

Woodland

Suitability: Well suited to northern red oak and yellow-poplar

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

Pc—Philo-Linden silt loams

Setting

Landscape position: Flood plains in river valleys

Composition

Philo soil: 45 percent

Linden soil: 40 percent

Inclusions: 15 percent

Typical Profile

Philo

0 to 10 inches; silt loam

10 to 40 inches; silt loam

40 to 65 inches; very gravelly sandy loam

Linden

0 to 12 inches; silt loam

12 to 48 inches; gravelly silt loam

48 to 70 inches; sandy loam

Soil Properties and Qualities

Philo

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 7.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 11 to 24 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Linden

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Occasional

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Alluvium derived from sedimentary rock

Inclusions

- The poorly drained Atkins soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soils are wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.
- The flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited

Management considerations:

- The flooding may damage pasture grasses.

Woodland

Suitability: Well suited to northern red oak and yellow-poplar

Management considerations:

- The flooding may result in damage to haul roads.
- The flooding is a hazard affecting the safe use of roads by logging trucks.
- The wetness may limit the operation of logging trucks in areas of these soils.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: Philo—2w; Linden—1

Hydric soil: No

Ps—Pits

This map unit consists of open excavations from which soil and, in most instances, the underlying material have been removed, exposing either rock or other material.

Pt—Potomac gravelly sandy loam

Setting

Landscape position: Flat or slightly convex flood plains in river valleys

Composition

Potomac soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 4 inches; gravelly sandy loam

4 to 65 inches; extremely gravelly sand

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 3.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 1.98 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Somewhat excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: Frequent

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Recent sandy and gravelly alluvium derived from sedimentary rock

Inclusions

- The well drained Barbour and Linden and the moderately well drained Basher soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Poorly suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The flooding may damage pasture grasses.

Woodland

Suitability: Moderately suited to northern red oak and eastern white pine

Management considerations:

- The flooding may result in damage to haul roads.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The flooding is a hazard affecting the safe use of roads by logging trucks.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The flooding is a hazard on sites for septic tank absorption fields.

Interpretive Groups

Land capability classification: 5s

Hydric soil: No

Pu—Purdy silt loam, 0 to 3 percent slopes

Setting

Landscape position: Concave or nearly level flood plains and terraces in river valleys

Composition

Purdy soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silt loam

7 to 44 inches; clay loam

44 to 60 inches; clay

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: High (about 9.1 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Very low (about 0.00 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Poorly drained

Seasonal high water table: Within a depth of 6 inches

Kind of water table: Apparent

Flooding: None

Hazard of ponding: Rare

Depth of ponding: At the surface to about 12 inches above the surface

Shrink-swell potential: Moderate

Surface runoff class: High

Surface fragments: None

Parent material: Slackwater terrace alluvium derived from sedimentary rock

Inclusions

- The moderately well drained Zoar and Comly soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn and grass-legume hay; poorly suited to soybeans

Management considerations:

- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Poorly suited

Management considerations:

- The seasonal high water table can affect equipment use, grazing patterns, and viability of grass and legume species.
- Grazing when the soil is wet can result in surface compaction.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to yellow-poplar and sweetgum

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- 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

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 4w

Hydric soil: Yes

Qu—Quarry, limestone

This map unit consists of open excavations from which soil and, in many areas, the underlying material have been removed, exposing either rock or other material.

RaF—Rock outcrop-Rubble land complex, 50 to 90 percent slopes

This map unit consists of areas of Rock outcrop and Rubble land. The Rock outcrop consists of exposures of bare, hard bedrock and rock-lined pits. It consists mainly of unweathered, resistant sandstone, shales, consolidated limestone, and conglomerate. The Rubble land consists of areas of stones and boulders. It is commonly at the base of the Rock outcrop. Slopes range from 50 to 90 percent.

Composition

Rock outcrop and Rubble land: 80 percent

Inclusions: 20 percent

Typical Profile

Rock outcrop

0 to 60 inches; bedrock

Rubble land

0 to 60 inches; fragmental material

Properties and Qualities of Rubble Land

Rubble land

Available water capacity: Very low (about 2 inches in a 60-inch profile)

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

Drainage class: Excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Parent material: Sandstone stones and boulders

Inclusions

- The moderately well drained Buchanan and well drained Laidig soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit typically is not used as woodland because of the large amount of stones and boulders.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The dense nature of the subsurface layer increases the difficulty of digging and compacting the soil material in shallow excavations.
- Rocks may need to be removed in areas of the Rock outcrop.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this map unit is unsuited to conventional septic tank absorption fields.
- Because of the Rock outcrop, special design of absorption fields is needed.

Interpretive Groups

Land capability classification: 8s

Hydric soil: No

Rb—Rubble land

The Rubble land consists of areas of stones and boulders (fig. 14). It is commonly at the base of rock outcrops, but in some areas, it is made up of deposits of cobbles, stones, and boulders left on mountainsides by glaciation or by periglacial processes. Slopes range from 0 to 100 percent.

Composition

Rubble land: 85 percent
Inclusions: 15 percent

Typical Profile

0 to 60 inches; fragmental material

Properties and Qualities of Rubble Land

Slope: Nearly level to very steep

Available water capacity: Very low (about 2 inches in a 60-inch profile)

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

Drainage class: Excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Parent material: Sandstone stones and boulders



Figure 14.—A typical view of Rubble land.

Inclusions

- The well drained Hazleton, Clymer, and Laidig and the moderately well drained Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Note: Onsite investigation is needed to determine the suitability for specific uses.

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit is not typically used as woodland because of the large amount of stones and boulders.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.
- The depth to bedrock and the hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The dense nature of the subsurface layer increases the difficulty of digging and compacting the soil material in shallow excavations.

Septic tank absorption fields

Management considerations:

- Because of the limited depth to bedrock, this map unit is unsuited to conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 8s

Hydric soil: No

TaA—Tilsit silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly concave ridgetops on plateaus

Composition

Tilsit soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silt loam

7 to 19 inches; silty clay loam

19 to 65 inches; silty clay loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Deep or very deep

Available water capacity: Low (about 4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Soil Survey of Clinton County, Pennsylvania

Depth to root restrictive feature: 18 to 28 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 22 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Silty residuum derived from shale and siltstone

Inclusions

- The moderately well drained Cookport and Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

TaB—Tilsit silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly concave ridgetops on plateaus

Composition

Tilsit soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silt loam

7 to 19 inches; silty clay loam

19 to 65 inches; silty clay loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Deep or very deep

Available water capacity: Low (about 4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 28 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 22 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Surface fragments: None

Parent material: Silty residuum derived from shale and siltstone

Inclusions

- The moderately well drained Cookport and Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Soil Survey of Clinton County, Pennsylvania

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

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

TaC—Tilsit silt loam, 8 to 15 percent slopes

Setting

Landscape position: Side slopes of ridges on plateaus

Composition

Tilsit soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 7 inches; silt loam

7 to 19 inches; silty clay loam

19 to 65 inches; silty clay loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Deep or very deep

Available water capacity: Low (about 4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 28 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 22 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very high

Surface fragments: None

Parent material: Silty residuum derived from shale and siltstone

Inclusions

- The moderately well drained Cookport and Wharton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

TmA—Timberville silt loam, 0 to 3 percent slopes

Setting

Landscape position: Concave alluvial fans and swales in valleys

Composition

Timberville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 12 inches; silt loam

12 to 32 inches; clay loam

32 to 65 inches; clay loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Low

Surface fragments: None

Parent material: Local alluvium derived from limestone

Inclusions

- The well drained Hagerstown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

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

Management considerations:

- No major hazards or limitations affect timber production.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

TmB—Timberville silt loam, 3 to 8 percent slopes

Setting

Landscape position: Concave alluvial fans and swales in valleys

Composition

Timberville soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 12 inches; silt loam

12 to 32 inches; clay loam

32 to 65 inches; clay loam

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Moderate (about 8.8 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: Rare

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Local alluvium derived from limestone

Inclusions

- The well drained Hagerstown and Opequon soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

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

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- The flooding is a hazard affecting building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

UnB—Ungers loam, 3 to 8 percent slopes

Setting

Landscape position: Convex shoulders and side slopes on mountains

Composition

Ungers soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 9 inches; loam

9 to 33 inches; channery clay loam

33 to 48 inches; very channery clay loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep or deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from sandstone and siltstone

Inclusions

- The well drained Meckesville and Leck Kill and the moderately well drained Hustontown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

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

Pasture

Suitability: Well suited

Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

UnC—Ungers loam, 8 to 15 percent slopes

Setting

Landscape position: Convex shoulders and side slopes on mountains

Composition

Ungers soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; loam
9 to 33 inches; channery clay loam
33 to 48 inches; very channery clay loam
48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping
Depth class: Very deep or deep
Available water capacity: Low (about 5.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)
Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to the seasonal high water table: More than 6 feet
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Low
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from sandstone and siltstone

Inclusions

- The well drained Meckesville and Leck Kill and the moderately well drained Hustontown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay
Management considerations:

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

Pasture

Suitability: Well suited
Management considerations:

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

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine
Management considerations:

- The low strength of this soil interferes with the construction and maintenance of haul roads and log landings.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

UoB—Ungers loam, 0 to 8 percent slopes, extremely stony

Setting

Landscape position: Convex summits and shoulders of mountains

Composition

Ungers soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 6 inches; loam

6 to 33 inches; channery clay loam

33 to 48 inches; very channery clay loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Very deep or deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and siltstone

Inclusions

- The well drained Meckesville and Leck Kill and the moderately well drained Hustontown soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

UoC—Ungers loam, 8 to 25 percent slopes, extremely stony

Setting

Landscape position: Convex shoulders and the upper side slopes on mountains

Composition

Ungers soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; loam

6 to 33 inches; channery clay loam

33 to 48 inches; very channery clay loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Strongly sloping and moderately steep

Depth class: Very deep or deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and siltstone

Inclusions

- The well drained Meckesville and Leck Kill soils and moderately well drained or somewhat poorly drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

UoE—Ungers loam, 25 to 50 percent slopes, extremely stony

Setting

Landscape position: Convex upper side slopes on mountains

Composition

Ungers soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 6 inches; loam

6 to 33 inches; channery clay loam

33 to 48 inches; very channery clay loam

48 to 58 inches; bedrock

Soil Properties and Qualities

Slope: Steep and very steep

Depth class: Very deep or deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Soil Survey of Clinton County, Pennsylvania

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and siltstone

Inclusions

- The well drained Meckesville, Laidig, and Leck Kill soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The construction of haul roads and log landings may be obstructed because of the high content of stones or boulders on the surface.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

UpF—Ungers-Meckesville complex, 25 to 50 percent slopes, extremely stony

Setting

Landscape position: Convex backslopes on mountains

Composition

Ungers soil: 50 percent

Meckesville soil: 30 percent

Inclusions: 20 percent

Typical Profile

Ungers

0 to 6 inches; loam

6 to 33 inches; channery clay loam

33 to 48 inches; very channery clay loam

48 to 58 inches; bedrock

Meckesville

0 to 4 inches; silt loam

4 to 35 inches; channery silt loam

35 to 66 inches; channery silt loam

Soil Properties and Qualities

Ungers

Slope: Steep and very steep

Depth class: Deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from sandstone and siltstone

Meckesville

Slope: Steep and very steep

Depth class: Very deep

Available water capacity: Low (about 5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.20 inch per hour)

Depth to root restrictive feature: 30 to 48 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 30 to 48 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 3 to 15 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony colluvium derived from sedimentary rock

Inclusions

- The well drained Leck Kill soils and somewhat poorly drained soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to eastern white pine

Management considerations:

- Because of the slope, the safe operation of equipment and the hazard of erosion during the construction of haul roads and log landings are management concerns.
- The high content of stones or boulders on the surface may obstruct the construction of haul roads and log landings.
- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in these soils.
- The operation of logging trucks is unsafe and the operating efficiency of the trucks and of harvesting and mechanical planting equipment is reduced because of the slope.

Building site development

Management considerations:

- The seasonal high water table in the Meckesville soil may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The moderate permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 7s

Hydric soil: No

UrC—Urban land-Berks complex, 3 to 15 percent slopes

Setting

This map unit consists of intermingled areas of Urban land and Berks soil.

Composition

Urban land: 70 percent

Berks soil: 20 percent

Inclusions: 10 percent

Typical Profile

Urban land

The Urban land is mostly covered by streets, parking lots, buildings, and other structures of urban areas.

Berks

0 to 6 inches; channery silt loam

6 to 26 inches; very channery silt loam
26 to 36 inches; bedrock

Soil Properties and Qualities

Berks

Slope: Gently sloping and strongly sloping

Depth class: Moderately deep

Available water capacity: Very low (about 2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from acid shale

Inclusions

- Small areas of the well drained Hartleton and Weikert soils

Use and Management

Note: Onsite investigation is needed to determine the suitability for specific uses.

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit is not typically used as woodland.

Building site development

Management considerations:

- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Interpretive Groups

Land capability classification: Berks—3e

Hydric soil: No

UsB—Urban land-Comly complex, 0 to 8 percent slopes

Setting

This map unit consists of intermingled areas of Urban land and Comly soil.

Composition

Urban land: 70 percent

Comly soil: 20 percent

Inclusions: 10 percent

Typical Profile

Urban land

The Urban land is mostly covered by streets, parking lots, buildings, and other structures of urban areas.

Comly

0 to 9 inches; silt loam
9 to 23 inches; channery silt loam
23 to 48 inches; very flaggy silt loam
48 to 65 inches; extremely flaggy silt loam
65 to 75 inches; bedrock

Soil Properties and Qualities

Comly

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 35 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 29 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- Small areas of the well drained Berks and Hartleton soils

Use and Management

Note: Onsite investigation is needed to determine the suitability for specific uses.

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit is not typically used as woodland.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the Comly soil can be excavated.

Interpretive Groups

Land capability classification: Comly—2e

Hydric soil: No

UsC—Urban land-Comly complex, 8 to 15 percent slopes

Setting

This map unit consists of intermingled areas of Urban land and Comly soil.

Composition

Urban land: 70 percent

Comly soil: 20 percent

Inclusions: 10 percent

Typical Profile

Urban land

The Urban land is mostly covered by streets, parking lots, buildings, and other structures of urban areas.

Comly

0 to 9 inches; silt loam

9 to 23 inches; channery silt loam

23 to 48 inches; very flaggy silt loam

48 to 65 inches; extremely flaggy silt loam

65 to 75 inches; bedrock

Soil Properties and Qualities

Comly

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 3.3 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 20 to 35 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 14 to 29 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Medium

Surface fragments: None

Parent material: Residuum derived from shale and siltstone

Inclusions

- Small areas of the well drained Berks and Hartleton soils

Use and Management

Note: Onsite investigation is needed to determine the suitability for specific uses.

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit is not typically used as woodland.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the Comly soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Interpretive Groups

Land capability classification: Comly—3e

Hydric soil: No

Ut—Urban land-Linden complex

Setting

This map unit consists of intermingled areas of Urban land and Linden soil.

Composition

Urban land: 70 percent

Linden soil: 20 percent

Inclusions: 10 percent

Typical Profile

Urban land

The Urban land is mostly covered by streets, parking lots, buildings, and other structures of urban areas.

Linden

0 to 12 inches; silt loam

12 to 48 inches; gravelly silt loam

48 to 70 inches; sandy loam

Soil Properties and Qualities

Linden

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.5 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 2 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: About 36 to 72 inches

Kind of water table: Apparent

Flooding: Very rare

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Very low

Surface fragments: None

Parent material: Loamy alluvium derived from sedimentary rock

Inclusions

- Small areas of the moderately well drained Philo soils

Use and Management

Note: Onsite investigation is needed to determine the suitability for specific uses.

Cropland

Suitability: Not suited

Pasture

Suitability: Not suited

Woodland

Management considerations:

- This map unit is not typically used as woodland.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the Linden soil can be excavated.

Interpretive Groups

Land capability classification: Linden—1

Hydric soil: No

W—Water

This map unit includes streams, lakes, and ponds and other areas that are covered with water in most years, at least during the period that is warm enough for plants to grow. Many of the areas are covered with water throughout the year.

WaA—Watson silt loam, 0 to 5 percent slopes

Setting

Landscape position: Slightly concave footslopes of valley sides

Composition

Watson soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 24 inches; silty clay loam

24 to 65 inches; cobbly silt loam

Soil Properties and Qualities

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 3.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 18 to 32 inches to a fragipan; 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 12 to 26 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None
Parent material: Glacial till

Inclusions

- The well drained Allenwood, Berks, and Hartleton soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The dense soil material restricts the rooting depth of crops.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- This soil is well suited to the construction and maintenance of haul roads and log landings.
- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

WbB—Wharton silt loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or concave, broad summits and slopes of ridges on plateaus

Composition

Wharton soil: 80 percent
Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam
4 to 20 inches; silt loam
20 to 45 inches; channery silt loam
45 to 65 inches; very channery loam

Soil Properties and Qualities

Slope: Gently sloping
Depth class: Very deep
Available water capacity: Low (about 5.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: More than 60 inches to bedrock
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 15 to 30 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Moderate
Surface runoff class: Medium
Surface fragments: None
Parent material: Residuum derived from interbedded shale and siltstone

Inclusions

- The moderately well drained Cookport and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 2e

Hydric soil: No

WbC—Wharton silt loam, 8 to 15 percent slopes

Setting

Landscape position: Smooth or concave, broad summits and slopes of ridges on plateaus

Composition

Wharton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam

4 to 20 inches; silt loam

20 to 45 inches; channery silt loam

45 to 65 inches; very channery loam

Soil Properties and Qualities

Slope: Strongly sloping

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 15 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: High

Surface fragments: None

Parent material: Residuum derived from interbedded shale and siltstone

Inclusions

- The moderately well drained Cookport and the well drained Clymer soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, grass-legume hay, and alfalfa hay; poorly suited to soybeans

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Frost action may damage the root system of winter grain crops.
- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with 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.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.
- Because of the slope, the use of machinery is limited and the extent of excavation that is necessary is increased.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.
- The slope limits the proper treatment of effluent from conventional absorption fields.

Interpretive Groups

Land capability classification: 3e

Hydric soil: No

WeB—Wharton silt loam, 0 to 8 percent slopes, very stony

Setting

Landscape position: Smooth or concave, broad summits and slopes of ridges on plateaus

Composition

Wharton soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 4 inches; silt loam
4 to 20 inches; silt loam
20 to 45 inches; channery silt loam
45 to 65 inches; very channery loam

Soil Properties and Qualities

Slope: Nearly level and gently sloping
Depth class: Very deep
Available water capacity: Low (about 5.4 inches in a 60-inch profile)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)
Depth to root restrictive feature: More than 60 inches to bedrock
Drainage class: Moderately well drained
Depth to the seasonal high water table: About 15 to 30 inches
Kind of water table: Perched
Flooding: None
Hazard of ponding: None
Shrink-swell potential: Moderate
Surface runoff class: Medium
Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter
Parent material: Stony residuum derived from interbedded shale and siltstone

Inclusions

- The moderately well drained Tilsit and Cookport soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 6s

Hydric soil: No

**WgB—Wharton-Cookport complex, 0 to 8 percent slopes,
very stony**

Setting

Landscape position: Smooth or concave, broad summits and slopes of ridges on plateaus

Composition

Wharton soil: 50 percent

Cookport soil: 30 percent

Inclusions: 20 percent

Typical Profile

Wharton

0 to 4 inches; silt loam

4 to 20 inches; silt loam

20 to 45 inches; channery silt loam

45 to 65 inches; very channery loam

Cookport

0 to 2 inches; loam

2 to 46 inches; channery loam

46 to 54 inches; channery sandy loam

54 to 64 inches; bedrock

Soil Properties and Qualities

Wharton

Slope: Nearly level and gently sloping

Depth class: Very deep

Available water capacity: Low (about 5.4 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: More than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 15 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Stony residuum derived from interbedded shale and siltstone

Cookport

Slope: Nearly level and gently sloping

Depth class: Deep

Available water capacity: Very low (about 2.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

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Depth to root restrictive feature: 16 to 27 inches to a fragipan; more than 60 inches to bedrock

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 10 to 21 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: High

Percentage of the surface covered by rock fragments: About 0.1 to 3.0 percent covered by stones, which are 15 to 24 inches in diameter

Parent material: Residuum derived from acid sandstone

Inclusions

- The well drained Clymer, the moderately well drained Tilsit, and the poorly drained Nolo soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Not suited

Pasture

Suitability: Moderately suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.
- Frost action may damage the root system of plants.

Woodland

Suitability: Moderately suited to northern red oak and yellow-poplar

Management considerations:

- The wetness may limit the operation of logging trucks in areas of this soil.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of properly installing the distribution lines for the effluent.

Interpretive Groups

Land capability classification: 6s

Hydric soil: No

WhA—Wheeling silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth terraces in river valleys

Composition

Wheeling soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 9 inches; silt loam

9 to 47 inches; silt loam

47 to 65 inches; fine sandy loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 6.7 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately high (about 0.60 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Well drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Old loamy alluvium derived from sandstone and shale

Inclusions

- The well drained Allenwood and the moderately well drained Watson soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

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

Management considerations:

- No major hazards or limitations affect timber production.

Building site development

Management considerations:

- This soil is well suited to building site development.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 1

Hydric soil: No

WyA—Wyoming very gravelly loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly convex terraces and alluvial fans

Composition

Wyoming soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 7 inches; very gravelly loam

7 to 44 inches; very gravelly sandy loam

44 to 65 inches; extremely gravelly loamy sand

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Low (about 4.1 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 6 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Somewhat excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Negligible

Surface fragments: None

Parent material: Stream or river glaciofluvial deposits

Inclusions

- The well drained Barbour and the moderately well drained Kreamer and Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Poorly suited to northern red oak; moderately suited to yellow-poplar

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.

Building site development

Management considerations:

- The high content of sand or gravel in this soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 3s

Hydric soil: No

WyB—Wyoming very gravelly loam, 3 to 8 percent slopes

Setting

Landscape position: Smooth or slightly convex terraces and alluvial fans

Composition

Wyoming soil: 85 percent

Inclusions: 15 percent

Typical Profile

0 to 7 inches; very gravelly loam

7 to 44 inches; very gravelly sandy loam

44 to 65 inches; extremely gravelly loamy sand

Soil Properties and Qualities

Slope: Gently sloping

Depth class: Very deep

Available water capacity: Low (about 4.1 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: High (about 6.00 inches per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Somewhat excessively drained

Depth to the seasonal high water table: More than 6 feet

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Low

Surface runoff class: Low

Surface fragments: None

Parent material: Stream or river glaciofluvial deposits

Inclusions

- The well drained Barbour and the moderately well drained Kreamer and Buchanan soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, and alfalfa hay; well suited to grass-legume hay

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pasture

Suitability: Well suited

Management considerations:

- The hazard of erosion, the rate of surface runoff, and the loss of nutrients are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

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

Management considerations:

- Increased maintenance is needed on haul roads and log landings because of the coarse textured layers in this soil.

Building site development

Management considerations:

- The high content of sand or gravel in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

Management considerations:

- The excessive permeability limits the proper treatment of effluent from conventional septic tank absorption fields, and as a result, the ground water may become polluted.

Interpretive Groups

Land capability classification: 3s

Hydric soil: No

ZoA—Zoar silt loam, 0 to 3 percent slopes

Setting

Landscape position: Smooth or slightly concave terraces in river valleys

Composition

Zoar soil: 80 percent

Inclusions: 20 percent

Typical Profile

0 to 12 inches; silt loam

12 to 46 inches; silty clay loam

46 to 65 inches; clay loam

Soil Properties and Qualities

Slope: Nearly level

Depth class: Very deep

Available water capacity: Moderate (about 8.2 inches in a 60-inch profile)

Slowest saturated hydraulic conductivity: Moderately low (about 0.06 inch per hour)

Depth to root restrictive feature: 61 to 120 inches to bedrock (lithic)

Drainage class: Moderately well drained

Depth to the seasonal high water table: About 18 to 30 inches

Kind of water table: Perched

Flooding: None

Hazard of ponding: None

Shrink-swell potential: Moderate

Surface runoff class: Medium

Surface fragments: None

Parent material: Slackwater alluvial deposits and clayey glaciolacustrine deposits

Inclusions

- The poorly drained or very poorly drained Purdy, the well drained Wheeling, and the moderately well drained Comly soils; in areas that are generally less than 3 acres in size

Use and Management

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay

Management considerations:

- Operating equipment when the soil is wet can result in compaction.
- Soil crusting results in a decreased rate of water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited

Woodland

Suitability: Moderately suited to northern red oak and eastern white pine

Management considerations:

- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building site development

Management considerations:

- The seasonal high water table may limit the period when the soil can be excavated.

Septic tank absorption fields

Management considerations:

- The seasonal high water table greatly limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.
- The restricted permeability of this soil limits the absorption and proper treatment of effluent from conventional septic tank absorption fields.

Interpretive Groups

Land capability classification: 2w

Hydric soil: No

Use and Management of the Soils

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

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for agricultural waste management. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

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

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Interpretive Ratings

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

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *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

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information 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 that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

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

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

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

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

Land Capability Classification

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

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

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

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

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

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

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

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

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

The acreage of soils in each capability class or subclass is shown in table 6. The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

Prime Farmland and Other Important Farmland

In an effort to identify the extent and location of important 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. About 48,345 acres, or nearly 8.4 percent of the survey area, meets the requirements for prime farmland. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some 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.

In some areas, land that does not meet the criteria for prime farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

The map units in the survey area that are considered prime farmland and other important farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

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.

Tables 8a and 8b 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 these tables, 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

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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 tables 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 tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy

metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a

water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Frozen soils are unsuitable for waste treatment.

Forest Productivity and Management

The tables 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 forest management.

Forest 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.

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

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

Forest Management

In tables 10a, 10b, and 10c, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates

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that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that

simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Recreation

The soils of the survey area are rated in tables 11a and 11b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 11a and 11b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

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Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic

matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Hydric Soils

Table 12 lists the map unit components that are rated as hydric soils in the survey area. 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 Vasilas 2006).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others 1979; National Research Council 1995; Tiner 1985; U.S. Army Corps of Engineers 1987). 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 (fig. 15). 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 Vasilas 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

Table 12 lists the *map symbol and map unit name*, the *component* in the map unit that is a hydric soil, the *percentage* of the component in the map unit, what *landform* the hydric soil is on, and the *hydric criteria* that apply to the soil.



Figure 15.—Redoximorphic features on the face of this ped are indicative of wetness.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folistels.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

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

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

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 13a and 13b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building

site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the

soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 14a and 14b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability,

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depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow

along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 15a and 15b give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15a, 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.

The soils are rated *good, fair, or poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in table 15b. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

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

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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 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is

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determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

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

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

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

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

Engineering Index Properties

Table 17 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

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

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the

other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

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

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

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

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

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 18 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 18, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 18, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 18, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence

shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

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

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

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

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

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

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

being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

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

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

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

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory

analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Water Features

Table 20 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

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

Water table refers to a saturated zone in the soil. 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. Table 20 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

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

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

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

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and

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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, 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. Table 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

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

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size 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, mixed, semiactive, mesic Typic Hapludalfs.

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

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

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

Aeric Epiaquents

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Slow

Landform: Ridge on plateau

Frost-free period: 110 to 140 days

Associated soils: Cedar creek, Cookport, Wharton, Gilpin, and Tilsit

Taxonomic class: Aeric Epiaquents

Typical Pedon

An area of Aeric Epiaquents, gently sloping, on a 3-percent slope; 100 feet north of Tangascootack Road; USGS Howard NW topographic quadrangle; lat. 41 degrees 08 minutes 42 seconds N. and long. 77 degrees 08 minutes 26 seconds W.

C1—0 to 16 inches; channery clay loam, 50 percent dark grayish brown (10YR 4/2) and 50 percent light yellowish brown (10YR 6/4); moderate fine and medium subangular blocky structure; firm, slightly sticky and slightly plastic; common fine and medium distinct light gray (10YR 7/2) irregular iron depletions and common fine prominent reddish yellow (5YR 6/8) irregular masses of iron throughout; few faint clay films on faces of peds and in pores; 5 percent subangular sandstone channers and 15 percent angular shale and siltstone channers; neutral; gradual smooth boundary.

C2—16 to 32 inches; channery clay loam, 60 percent dark grayish brown (10YR 4/2) and 40 percent light yellowish brown (10YR 6/4); moderate medium subangular blocky structure; firm, slightly sticky and slightly plastic; common fine and medium light gray (10YR 7/2) irregular iron depletions and common fine prominent reddish yellow (5YR 6/8) irregular masses of iron throughout; few faint clay films on faces of peds and in pores; 10 percent subangular sandstone channers and 20 percent angular shale and siltstone channers; slightly acid; gradual smooth boundary.

C3—32 to 65 inches; dark grayish brown (10YR 4/2) very channery silt loam; moderate coarse subangular blocky structure; firm, nonsticky and nonplastic; common fine and medium distinct light gray (10YR 7/2) irregular iron depletions and common fine prominent reddish yellow (5YR 6/8) irregular masses of iron throughout; few faint clay films on faces of peds and in pores; 10 percent subangular sandstone channers and 30 percent angular shale and siltstone channers; slightly acid.

Range in Characteristics

Thickness of the solum: 0 to 10 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions: Less than 20 inches

Content of clay in the control section: 18 to 30 percent

Content of rock fragments in the control section: 15 to 60 percent

Size of rock fragments: Dominantly angular and subangular channers

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Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In limed areas, strongly acid to neutral

C horizon:

Hue—2.5Y to 7.5YR

Value—4 to 6

Chroma—2 to 4

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

Content of rock fragments—15 to 60 percent

Note: Some pedons have an A horizon, which is thin and dark grayish brown.

Allegheny Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderate

Landform: Terrace in river valley

Elevation: 800 to 1,200 feet

Frost-free period: 130 to 165 days

Associated soils: Hazleton, Clymer, Linden, and Laidig

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

An area of Allegheny silt loam, 8 to 25 percent slopes, on a 13-percent slope; 1,000 feet south of Hammersley Fork; USGS Hammersley Fork topographic quadrangle; lat. 41 degrees 25 minutes 37 seconds N. and long. 77 degrees 55 minutes 08 seconds W.

A—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium granular structure; very friable, nonsticky and nonplastic; common very fine and fine roots throughout; 10 percent rounded sandstone and shale gravel; strongly acid; abrupt wavy boundary.

BE—6 to 15 inches; strong brown (7.5YR 4/6) gravelly silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky and nonplastic; 15 percent rounded sandstone and shale gravel; strongly acid; clear wavy boundary.

Bt—15 to 35 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate medium subangular blocky structure; friable, slightly sticky and nonplastic; few faint clay films on faces of peds and in pores; 15 percent rounded sandstone and shale gravel and 5 percent rounded sandstone and shale cobbles; strongly acid; gradual wavy boundary.

BC—35 to 65 inches; strong brown (7.5YR 4/6) gravelly loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 20 percent rounded sandstone and shale gravel; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 50 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 18 to 30 percent

Content of rock fragments in the control section: 5 to 25 percent

Size of rock fragments: Dominantly rounded and subrounded gravel

Kind of rock fragments: Sandstone and shale

Reaction: In unlimed areas, strongly acid or very strongly acid

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A horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 15 percent

BE horizon (if it occurs):

Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam
Content of rock fragments—5 to 25 percent

Bt horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 8
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—5 to 25 percent

BC and C horizons (if they occur):

Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture of the fine-earth fraction—loam, silt loam, or fine sandy loam
Content of rock fragments—10 to 30 percent

Allenwood Series

Depth class: Very deep (fig. 16)

Drainage class: Well drained

Permeability: Moderate

Landform: Glacial till on valley side

Elevation: 600 to 900 feet

Frost-free period: 140 to 165 days

Associated soils: Watson, Berks, Hartleton, and Weikert

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

An area of Allenwood gravelly silt loam, 3 to 8 percent slopes, on a 5-percent slope; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 10 minutes 58 seconds N. and long. 77 degrees 19 minutes 25 seconds W.

Ap—0 to 11 inches; brown (7.5YR 5/3) gravelly silt loam; weak fine and medium granular structure; very friable, nonsticky and nonplastic; 15 percent rounded sandstone and shale gravel; neutral; abrupt smooth boundary.

Bt1—11 to 23 inches; reddish yellow (5YR 6/6) gravelly silty clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; 15 percent rounded sandstone and shale gravel; slightly acid; gradual smooth boundary.

Bt2—23 to 44 inches; yellowish red (5YR 5/8) gravelly clay; moderate fine and medium subangular blocky structure; friable, moderately sticky and moderately plastic; many distinct clay films on faces of peds and in pores; 15 percent rounded sandstone and shale gravel; moderately acid; clear smooth boundary.

Bt3—44 to 65 inches;
yellowish red (5YR 5/8)
gravelly clay loam;
moderate fine and
medium subangular
blocky structure; friable,
moderately sticky and
moderately plastic; many
distinct clay films on
faces of peds and in
pores; 20 percent
subrounded sandstone
and shale gravel;
strongly acid.

Range in Characteristics

Thickness of the solum: 48 to
75 inches

Depth to bedrock: More than
60 inches

*Content of clay in the control
section:* 25 to 40 percent

*Content of rock fragments in
the control section:* 10 to
35 percent

Size of rock fragments:
Dominantly rounded and
subrounded gravel

Kind of rock fragments:
Sandstone and some
shale

Reaction: In limed areas,
strongly acid to neutral

Ap horizon:

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 or 3

Texture of the fine-earth
fraction—silt loam

Content of rock
fragments—15 to 25 percent

Bt horizon:

Hue—5YR or 2.5YR

Value—4 to 6

Chroma—6 to 8

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

Content of rock fragments—10 to 35 percent



Figure 16.—Profile of an Allenwood gravelly silt loam. Depth is marked in feet. The arrows point to the bottom of the Ap, Bt1, and Bt2 horizons.

Andover Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Very slow

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Landform: Foothlope of valley side

Elevation: 700 to 1,400 feet

Frost-free period: 110 to 165 days

Associated soils: Buchanan, Laidig, Pennval, Murrill, and Hagerstown

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Fragiaquults

Typical Pedon

Andover gravelly loam, in an area of Buchanan-Andover gravelly loams, 8 to 15 percent slopes, on a 10-percent slope; Lamar Township; 0.75 mile east of the Route 220 exit on Route 80, at the end of the road, 150 feet south of the parking area; USGS Mill Hall topographic quadrangle; lat. 41 degrees 03 minutes 44 seconds N. and long. 77 degrees 25 minutes 31 seconds W.

Ap—0 to 10 inches; dark gray (10YR 4/1) gravelly loam; weak fine and medium granular structure; friable, slightly sticky and nonplastic; 10 percent subangular sandstone gravel and 5 percent subangular shale gravel; moderately acid; abrupt smooth boundary.

Btg—10 to 22 inches; gray (10YR 6/1) silty clay loam; weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores; common medium prominent strong brown (7.5YR 5/6) irregular masses of iron accumulation throughout; 5 percent subangular sandstone gravel; moderately acid; clear smooth boundary.

Btx1—22 to 38 inches; brown (7.5YR 5/4) gravelly silty clay loam; weak very coarse prismatic structure parting to weak medium and coarse subangular blocky; firm, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores; common medium prominent gray (10YR 6/1) irregular iron depletions throughout and common medium prominent reddish yellow (7.5YR 6/8) irregular masses of iron accumulation throughout; 10 percent subangular sandstone gravel and 5 percent subangular shale gravel; moderately acid; clear smooth boundary.

Btx2—38 to 55 inches; brown (7.5YR 5/4) gravelly loam; weak very coarse prismatic structure parting to weak medium platy; firm, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores; many medium prominent gray (10YR 6/1) irregular iron depletions throughout and common medium prominent reddish yellow (7.5YR 5/8) irregular masses of iron accumulation throughout; 10 percent subangular sandstone gravel and 5 percent subangular shale gravel; moderately acid; gradual smooth boundary.

C—55 to 65 inches; brown (7.5YR 4/4) gravelly loam; weak very coarse prismatic structure; friable, nonsticky and nonplastic; few distinct clay films on faces of peds and in pores; common medium prominent pinkish gray (7.5YR 6/2) irregular iron depletions throughout and common medium prominent reddish yellow (7.5YR 5/6) irregular masses of iron accumulation throughout; 25 percent subangular sandstone gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 18 to 28 inches

Depth to redox depletions or reduced matrix: Less than 6 inches

Content of clay in the control section: 20 to 35 percent

Content of rock fragments in the control section: 0 to 30 percent

Size of rock fragments: Dominantly subrounded and subangular gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, very strongly acid or strongly acid

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Ap horizon:

Hue—10YR
Value—2 to 4
Chroma—1 to 4
Texture of the fine-earth fraction—loam
Content of rock fragments—15 to 25 percent

BE horizon (if it occurs):

Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—5 to 25 percent

Bt horizon:

Hue—2.5Y or 10YR
Value—4 to 6
Chroma—1 or 2
Texture of the fine-earth fraction—loam, silt loam, or clay loam
Content of rock fragments—0 to 40 percent

Btx horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—1 to 4
Texture of the fine-earth fraction—loam, silt loam, or clay loam
Content of rock fragments—5 to 40 percent

C horizon:

Hue—10YR or 7.5YR
Value—4 to 6
Chroma—1 to 4
Texture of the fine-earth fraction—loam, sandy clay loam, or sandy loam
Content of rock fragments—10 to 50 percent

Atkins Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Slow

Landform: Flood plain in a valley

Elevation: 520 to 1,300 feet

Frost-free period: 140 to 165 days

Associated soils: Linden, Philo, Wheeling, Purdy, and Basher

Taxonomic class: Fine-loamy, mixed, active, acid, mesic Fluvaquentic Endoaquepts

Typical Pedon

An area of Atkins silt loam, on a 1-percent slope; USGS Hammersley Fork topographic quadrangle; lat. 41 degrees 23 minutes 32 seconds N. and long. 77 degrees 55 minutes 35 seconds W.

Ap1—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; loose, nonsticky and nonplastic; common very fine and fine roots throughout; few prominent yellowish red (5YR 5/8) iron stains in root channels and pores; very strongly acid; clear wavy boundary.

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- Ap2—8 to 16 inches; brown (7.5YR 4/2) loam; moderate fine granular structure parting to weak medium subangular blocky; friable, nonsticky and nonplastic; common very fine and fine roots throughout; few prominent yellowish red (5YR 5/8) iron stains in root channels and pores; very strongly acid; clear wavy boundary.
- BCg1—16 to 22 inches; brown (7.5YR 5/2) loam; weak coarse subangular blocky structure; friable, slightly sticky and nonplastic; few very fine and fine roots throughout; few prominent yellowish red (5YR 5/8) iron stains in root channels and pores; common medium irregular yellowish red (5YR 5/6) masses of iron accumulation throughout; very strongly acid; gradual wavy boundary.
- BCg2—22 to 32 inches; gray (7.5YR 6/1) silty clay loam; weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; few very fine and fine roots throughout; few prominent yellowish red (5YR 5/8) iron stains in root channels and pores; common fine and medium rounded iron and manganese concretions throughout; common coarse irregular reddish brown (5YR 4/4) masses of iron accumulation throughout; very strongly acid; gradual wavy boundary.
- C1g—32 to 45 inches; gray (7.5YR 5/2) silty clay loam; massive; friable, moderately sticky and moderately plastic; few very fine and fine roots throughout; common fine and medium rounded iron and manganese concretions throughout; common medium and coarse prominent yellowish red (5YR 5/8) and reddish brown (5YR 5/4) masses of iron accumulation throughout; 2 percent subrounded sandstone and shale gravel; very strongly acid; clear wavy boundary.
- C2g—45 to 60 inches; bluish gray (5B 6/1) sandy loam; massive; friable, slightly sticky and nonplastic; 4 percent subrounded sandstone and shale gravel; strongly acid; clear wavy boundary.
- C3g—60 to 70 inches; bluish gray (5B 5/1) sandy loam; loose, nonsticky and nonplastic; 3 percent subrounded sandstone and shale gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 25 to 50 inches

Depth to bedrock: More than 60 inches

Redox depletions or reduced matrix: Within a depth of 6 inches

Content of clay in the control section: 15 to 35 percent

Content of rock fragments in the control section: 0 to 20 percent

Size of rock fragments: Dominantly rounded and subrounded gravel

Kind of rock fragments: Sandstone, siltstone, or shale

Reaction: In unlimed areas, strongly acid or very strongly acid

Ap horizon:

Hue—10YR

Value—4 to 6

Chroma—1 or 2

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 15 percent

Bg or BCg horizon (if it occurs):

Hue—5YR to 10YR or is neutral

Value—4 to 7

Chroma—0 to 2

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

Content of rock fragments—0 to 20 percent

Cg horizon:

Hue—5YR to 10YR or is neutral

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Value—4 to 7

Chroma—0 to 8

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

Content of rock fragments—0 to 30 percent

Note: The slightly redder colors and the clay loam and sandy clay loam textures in the subsoil and substratum do not affect the use and management of this soil.

Barbour Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately rapid

Landform: Flood plain in a valley

Elevation: 520 to 1,300 feet

Frost-free period: 140 to 165 days

Associated soils: Basher, Atkins, Linden, and Hagerstown

Taxonomic class: Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon

An area of Barbour fine sandy loam, on a 1-percent slope; 0.75 mile north of Hammersley Fork Road and Pennsylvania Route 144; USGS Hammersley Fork topographic quadrangle; lat. 41 degrees 27 minutes 25 seconds N. and long. 77 degrees 52 minutes 30 seconds W.

Ap—0 to 6 inches; reddish brown (5YR 4/3) fine sandy loam, reddish brown (5YR 5/3) dry; weak medium granular structure; loose, nonsticky and nonplastic; common very fine to medium roots throughout; 2 percent rounded sandstone gravel; very strongly acid; clear wavy boundary.

Bw1—6 to 15 inches; reddish brown (5YR 5/4) and yellowish red (5YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; common very fine to medium roots throughout; 2 percent rounded sandstone gravel; very strongly acid; gradual wavy boundary.

Bw2—15 to 20 inches; reddish brown (5YR 5/4) and yellowish red (5YR 5/6) gravelly fine sandy loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; common very fine to medium roots throughout; 5 percent rounded sandstone gravel and 5 percent subrounded sandstone gravel; very strongly acid; gradual wavy boundary.

2C1—20 to 30 inches; reddish brown (5YR 4/4) very gravelly loamy sand; single grain; loose, nonsticky and nonplastic; common very fine and fine roots throughout; 20 percent rounded sandstone gravel and 20 percent subrounded sandstone gravel; very strongly acid; diffuse wavy boundary.

2C2—30 to 65 inches; reddish brown (5YR 4/4) very gravelly sand; single grain; loose, nonsticky and nonplastic; 40 percent rounded sandstone gravel and 20 percent subrounded sandstone gravel; very strongly acid.

Range in Characteristics

Thickness of the solum: 18 to 40 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 2 to 20 percent

Content of rock fragments in the control section: 0 to 35 percent

Size of rock fragments: Dominantly rounded and subrounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

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Reaction: In unlimed areas, strongly acid or very strongly acid

Ap horizon:

Hue—7.5YR or 5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—fine sandy loam

Content of rock fragments—0 to 15 percent

B horizon:

Hue—5YR or 7.5YR

Value—3 to 5

Chroma—3 to 6

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

Content of rock fragments—0 to 35 percent

2C horizon:

Hue—5YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—loamy sand, loamy fine sand, or sand

Content of rock fragments—0 to 40 percent

Basher Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Moderately slow or moderate above the C horizon and moderate or moderately rapid in the C horizon

Landform: Flood plain in river valley

Elevation: 520 to 1,300 feet

Frost-free period: 140 to 165 days

Associated soils: Barbour, Linden, Atkins, and Hagerstown

Taxonomic class: Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

Typical Pedon

An area of Basher silt loam, on a 1-percent slope; Pine Creek Township; 150 yards north of Township Route 437 and 0.5 mile west of Township Route 438; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 10 minutes 19 seconds N. and long. 77 degrees 18 minutes 55 seconds W.

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; friable, nonsticky and nonplastic; neutral; clear smooth boundary.

Bw1—10 to 17 inches; reddish brown (5YR 4/4) silt loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; slightly acid; clear smooth boundary.

Bw2—17 to 24 inches; reddish brown (5YR 5/4) silt loam; moderate medium subangular blocky structure; friable, nonsticky and nonplastic; common fine distinct grayish brown (10YR 5/2) iron depletions; 5 percent rounded sandstone gravel; moderately acid; gradual wavy boundary.

Bw3—24 to 33 inches; reddish brown (5YR 5/4) loam; massive; friable, nonsticky and nonplastic; moderately acid; abrupt wavy boundary.

2C1—33 to 42 inches; brown (7.5YR 5/4) fine sandy loam; massive; friable, nonsticky and nonplastic; very strongly acid; abrupt wavy boundary.

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2C2—42 to 50 inches; brown (10YR 5/3) loamy sand; massive; very friable, nonsticky and nonplastic; common medium distinct light brown (7.5YR 6/4) masses of iron accumulation; strongly acid; clear wavy boundary.

3C—50 to 65 inches; brown (10YR 5/3) stratified coarse sand; massive; loose, nonsticky and nonplastic; strongly acid.

Range in Characteristics

Thickness of the solum: 16 to 40 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions: 15 to 24 inches

Content of clay in the control section: 2 to 15 percent

Content of rock fragments in the control section: 0 to 20 percent

Size of rock fragments: Dominantly rounded and subrounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, very strongly acid or strongly acid

Ap horizon:

Hue—5YR to 10YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 15 percent

Bw horizon:

Hue—5YR

Value—3 to 5

Chroma—3 to 6

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

Content of rock fragments—0 to 20 percent

BC horizon (if it occurs):

Hue—5YR or 7.5YR

Value—3 to 5

Chroma—3 or 4

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

Content of rock fragments—0 to 20 percent

C horizon:

Hue—5YR to 10YR

Value—3 to 5

Chroma—1 to 4

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

Content of rock fragments—0 to 40 percent

Berks Series

Depth class: Moderately deep

Drainage class: Well drained

Permeability: Moderately rapid

Landform: Ridge in a valley

Elevation: 600 to 1,100 feet

Frost-free period: 140 to 165 days

Associated soils: Weikert, Hartleton, Brinkerton, Comly, and Pennval

Taxonomic class: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

An area of Berks channery silt loam, 8 to 15 percent slopes, on a 9-percent slope; USGS Beech Creek topographic quadrangle; lat. 41 degrees 05 minutes 15 seconds N. and long. 77 degrees 34 minutes 52 seconds W.

Ap—0 to 6 inches; dark brown (10YR 3/3) channery silt loam; weak fine and medium granular structure; friable, nonsticky and nonplastic; common very fine and fine roots throughout; 30 percent angular shale channers; neutral; abrupt smooth boundary.

Bw1—6 to 12 inches; yellowish brown (10YR 5/4) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 50 percent angular shale channers; moderately acid; clear smooth boundary.

Bw2—12 to 26 inches; yellowish brown (10YR 5/6) very channery silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; 50 percent angular shale channers; moderately acid; abrupt wavy boundary.

R—26 inches; dark gray (10YR 4/1) shale bedrock.

Range in Characteristics

Thickness of the solum: 12 to 40 inches

Depth to bedrock: 20 to 40 inches

Content of clay in the control section: 10 to 30 percent

Content of rock fragments in the control section: 15 to 75 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Shale and siltstone

Reaction: In unlimed areas, extremely acid to strongly acid

Ap horizon:

Hue—10YR

Value—3 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—15 to 35 percent

Bw horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 8

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

Content of rock fragments—15 to 60 percent

C horizon (if it occurs):

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—2 to 8

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

Content of rock fragments—35 to 90 percent

Brinkerton Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Slow

Landform: Terrace in river valley

Elevation: 600 to 1,100 feet

Soil Survey of Clinton County, Pennsylvania

Frost-free period: 140 to 165 days

Associated soils: Berks, Weikert, Hartleton, and Comly

Taxonomic class: Fine-silty, mixed, superactive, mesic Typic Fragiaqualfs

Typical Pedon

An area of Brinkerton silt loam, 0 to 3 percent slopes, on a 3-percent slope; 0.25 mile north of Avis in a woodlot; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 11 minutes 35 seconds N. and long. 77 degrees 18 minutes 45 seconds W.

A—0 to 1 inch; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; 10 percent subrounded sandstone gravel; moderately acid; gradual smooth boundary.

AE—1 to 4 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; 5 percent subrounded sandstone gravel; moderately acid; clear smooth boundary.

BE—4 to 10 inches; light brownish gray (10YR 6/2) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; 5 percent subrounded sandstone gravel; moderately acid; gradual smooth boundary.

Bt1—10 to 18 inches; silty clay loam, 50 percent brownish yellow (10YR 6/6) and 50 percent light brownish gray (10YR 6/2); weak medium subangular blocky structure; friable, moderately sticky and moderately plastic; few distinct clay films on faces of peds; 10 percent subrounded sandstone gravel; moderately acid; clear smooth boundary.

Bt2—18 to 30 inches; silt loam, 50 percent yellowish brown (10YR 5/6) and 50 percent light gray (10YR 7/2); weak coarse subangular blocky structure; friable, nonsticky and nonplastic; few distinct clay films on faces of peds; 10 percent subrounded sandstone gravel; moderately acid; clear smooth boundary.

Bx—30 to 50 inches; yellowish brown (10YR 5/4) loam; moderate very coarse prismatic structure parting to weak coarse subangular blocky; firm, nonsticky and nonplastic; many coarse distinct light gray (10YR 7/2) irregular iron depletions; 10 percent subrounded sandstone gravel; moderately acid; clear smooth boundary.

C—50 to 65 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; 10 percent subrounded sandstone gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 40 to 65 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 20 to 30 inches

Redox depletions or reduced matrix: Within a depth of 6 inches

Content of clay in the control section: 18 to 35 percent

Content of rock fragments in the control section: 0 to 10 percent

Size of rock fragments: Dominantly rounded and subrounded gravel

Kind of rock fragments: Shale and siltstone

Reaction: In unlimed areas, very strongly acid to moderately acid

A and AE horizons:

Hue—10YR or is neutral

Value—3 to 5

Chroma—0 to 3

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 10 percent

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BE and Bt horizons:

Hue—10YR or 2.5Y or is neutral
Value—4 to 6
Chroma—0 to 2
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 10 percent

Bx horizon:

Hue—10YR or 2.5Y or is neutral
Value—5 or 6
Chroma—0 to 3
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam
Content of rock fragments—0 to 20 percent

C horizon:

Hue—10YR or 2.5Y or is neutral
Value—4 to 6
Chroma—0 to 4
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam
Content of rock fragments—10 to 30 percent

Buchanan Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Foothlope of valley side

Elevation: 700 to 1,400 feet

Frost-free period: 110 to 165 days

Associated soils: Laidig, Andover, Hazleton, Clymer, Hagerstown, and Pennval

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Aquic Fragiudults

Typical Pedon

An area of Buchanan gravelly loam, 8 to 25 percent slopes, on a 10-percent slope; USGS Beech Creek topographic quadrangle; lat. 41 degrees 00 minutes 47 seconds N. and long. 77 degrees 30 minutes 57 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) gravelly loam; moderate medium subangular blocky structure; friable, nonsticky and nonplastic; 15 percent subrounded sandstone channers; neutral; abrupt smooth boundary.

Bt1—7 to 15 inches; light yellowish brown (10YR 6/4) gravelly loam; weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; 15 percent subrounded sandstone channers; moderately acid; clear smooth boundary.

Bt2—15 to 21 inches; light yellowish brown (10YR 6/4) silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese concretions between peds; common fine faint light brownish gray (2.5Y 6/2) irregular iron depletions and common fine and medium faint yellowish brown (10YR 5/6) masses of iron accumulation between peds; 10 percent subrounded sandstone gravel; moderately acid; abrupt wavy boundary.

Btx1—21 to 27 inches; gravelly clay loam, 60 percent brownish yellow (10YR 6/6) and 40 percent strong brown (7.5YR 5/6); weak very coarse prismatic structure parting to moderate fine and medium subangular blocky; firm, slightly sticky

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and slightly plastic; few faint clay films on faces of peds; few prominent black (7.5YR 2.5/1) stains on faces of peds; common medium and coarse distinct light gray (10YR 7/2) irregular iron depletions and common medium and coarse distinct yellowish red (5YR 5/8) irregular masses of iron accumulation between peds; 20 percent subrounded sandstone gravel; strongly acid; clear smooth boundary.

Btx2—27 to 65 inches; strong brown (7.5YR 5/6) cobbly clay loam; moderate coarse prismatic structure parting to moderate coarse platy and moderate medium subangular blocky; very firm, slightly sticky and slightly plastic; few faint clay films on faces of peds; common prominent black (7.5YR 2.5/1) stains on faces of peds; common medium and coarse distinct light gray (2.5Y 7/2) irregular iron depletions and common medium and coarse distinct yellowish red (5YR 5/8) masses of iron accumulation between peds; 15 percent subrounded sandstone cobbles and 10 percent subrounded sandstone gravel; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 80 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 20 to 36 inches

Depth to redox depletions: 12 to 24 inches

Content of clay in the control section: 18 to 35 percent

Content of rock fragments in the control section: 0 to 35 percent

Size of rock fragments: Dominantly angular to subrounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, extremely acid to strongly acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 to 6

Chroma—1 to 4

Texture of the fine-earth fraction—loam

Content of rock fragments—0 to 25 percent

Bt horizon:

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 to 6

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

Content of rock fragments—0 to 30 percent

Btx horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

Content of rock fragments—10 to 35 percent

C horizon (if it occurs):

Hue—5YR to 2.5Y

Value—4 to 6

Chroma—3 to 6

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

Content of rock fragments—10 to 40 percent

Note: The slightly reddish color in the Bt and Btx horizons does not affect the use and management of the soil.

Calvin Series

Depth class: Moderately deep

Drainage class: Well drained

Permeability: Moderately rapid

Landform: Ridge in valley

Elevation: 1,200 to 1,800 feet

Frost-free period: 110 to 140 days

Associated soils: Klinesville, Hustontown, Leck Kill, and Ungers

Taxonomic class: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

An area of Calvin channery silt loam, 8 to 15 percent slopes, on a 12-percent slope; north of benchmark 1,418 at 1,100 feet; USGS Hammersley Fork topographic quadrangle; lat. 41 degrees 23 minutes 52 seconds N. and long. 77 degrees 57 minutes 23 seconds W.

A—0 to 1 inch; dark reddish brown (5YR 3/3) channery silt loam; weak medium granular structure; friable, nonsticky and nonplastic; 25 percent angular shale channers; very strongly acid; clear wavy boundary.

BE—1 to 3 inches; reddish brown (5YR 5/3) channery silt loam; weak medium granular structure; friable, nonsticky and nonplastic; 25 percent angular shale channers; very strongly acid; clear wavy boundary.

Bw1—3 to 15 inches; reddish brown (5YR 5/4) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 35 percent angular shale channers; very strongly acid; diffuse wavy boundary.

Bw2—15 to 30 inches; reddish brown (5YR 5/4) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 45 percent angular shale channers; very strongly acid.

R—30 inches; dusky red (10R 3/3) shale bedrock.

Range in Characteristics

Thickness of the solum: 20 to 35 inches

Depth to bedrock: 20 to 40 inches

Content of clay in the control section: 8 to 20 percent

Content of rock fragments in the control section: Ranges from 25 to 55 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Shale, siltstone, and sandstone

Reaction: In unlimed areas, strongly acid or very strongly acid throughout

A horizon:

Hue—7.5YR or 5YR

Value—2 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—15 to 25 percent

BE and Bw horizons:

Hue—5YR to 10R

Value—4 or 5

Chroma—2 to 6

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

Content of rock fragments—25 to 55 percent

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C horizon (if it occurs):

Hue—5YR to 10R

Value—3 to 5

Chroma—2 to 4

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

Content of rock fragments—40 to 70 percent

Cedarcreek Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately rapid

Landform: Ridge on plateau

Elevation: 1,000 to 1,600 feet

Frost-free period: 110 to 140 days

Associated soils: Gilpin, Cookport, Clymer, and Hazleton

Taxonomic class: Loamy-skeletal, mixed, active, acid, mesic Typic Udorthents

Typical Pedon

An area of Cedarcreek extremely channery loam, steep, on a 35-percent slope; Beech Creek Township; 150 feet south of Tangascootack Road, 0.6 mile east of Beech Creek road, in a strip mine pit; USGS Howard NW topographic quadrangle; lat. 41 degrees 08 minutes 19 seconds N. and long. 77 degrees 09 minutes 40 seconds W.

A—0 to 1 inch; dark brown (10YR 3/3) extremely channery loam; massive; loose, nonsticky and nonplastic; common very fine and fine roots throughout; 45 percent angular shale channers and 30 percent angular sandstone channers; extremely acid; abrupt smooth boundary.

C1—1 to 12 inches; dark grayish brown (10YR 4/2) extremely channery loam; massive; loose, nonsticky and nonplastic; common very fine and fine roots throughout; 45 percent angular shale channers and 30 percent angular sandstone channers; extremely acid; clear wavy boundary.

C2—12 to 24 inches; dark grayish brown (10YR 4/2) extremely channery loam; massive; loose, nonsticky and nonplastic; common very fine and fine roots throughout; 60 percent angular shale channers and 20 percent angular sandstone stones; extremely acid; clear wavy boundary.

C3—24 to 40 inches; brown (10YR 4/3) very channery loam; weak medium subangular blocky structure; loose, nonsticky and nonplastic; 50 percent angular shale channers; extremely acid; gradual wavy boundary.

C4—40 to 70 inches; extremely channery loam and silty clay loam, 95 percent brown (10YR 4/3) and 3 percent gray (10YR 6/1) and 2 percent yellowish red (5YR 5/8); massive parting to weak medium subangular blocky structure; loose, nonsticky and nonplastic; 60 percent angular shale channers and 20 percent angular sandstone channers; extremely acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Content of clay in the control section: 18 to 25 percent

Content of rock fragments in the control section: Ranges from 40 to 80 percent

Size of rock fragments: Dominantly channers but includes some stones and flagstones

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Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, strongly acid to extremely acid

A horizon:

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 6

Texture of the fine-earth fraction—loam

Content of rock fragments—60 to 80 percent

C horizon:

Hue—10YR

Value—3 to 6

Chroma—1 to 8

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

Content of rock fragments—40 to 80 percent

Chenango Series

Depth class: Very deep

Drainage class: Somewhat excessively drained

Permeability: Rapid

Landform: Terrace in river valley

Elevation: 550 to 800 feet

Frost-free period: 140 to 165 days

Associated soils: Linden, Barbour, Basher, and Purdy

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts

Typical Pedon

An area of Chenango gravelly loam, 3 to 8 percent slopes, on a 4-percent slope; about 0.25 mile west of Pine Creek near the German Lutheran Church in a crop field; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 12 minutes 23 seconds N. and long. 77 degrees 18 minutes 50 seconds W.

Ap—0 to 8 inches; gravelly loam, 70 percent dark grayish brown (10YR 4/2) and 30 percent brown (10YR 4/3); moderate fine and medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine and fine roots throughout; 10 percent rounded sandstone and shale gravel and 10 percent rounded sandstone and shale cobbles; slightly acid; abrupt smooth boundary.

Bw1—8 to 14 inches; cobbly silt loam, 70 percent light yellowish brown (10YR 6/4) and 30 percent pale brown (10YR 6/3); moderate medium subangular blocky structure; friable, nonsticky and nonplastic; common very fine and fine roots between peds; few faint pale brown (10YR 6/3) silt coats on faces of peds and in pores; 20 percent rounded sandstone and shale gravel and 20 percent rounded sandstone and shale cobbles; moderately acid; clear wavy boundary.

Bw2—14 to 27 inches; cobbly loam, 70 percent pale brown (10YR 6/3) and 30 percent light yellowish brown (10YR 6/4); weak medium and coarse subangular blocky structure; very friable, nonsticky and nonplastic; few very fine and fine roots between peds; 25 percent rounded sandstone and shale cobbles and 25 percent rounded sandstone and shale gravel; moderately acid; clear wavy boundary.

2C1—27 to 44 inches; very cobbly sandy loam and loamy sand, 60 percent grayish brown (10YR 5/2) and 40 percent brown (10YR 5/3); weak medium and coarse subangular blocky structure parting to single grain; loose, nonsticky and nonplastic; common very fine and fine roots throughout; 35 percent rounded

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sandstone and shale cobbles and 35 percent subrounded sandstone and shale stones; strongly acid; clear wavy boundary.
2C2—44 to 65 inches; brown (10YR 5/3) extremely cobbly loamy sand; single grain; loose, nonsticky and nonplastic; 70 percent rounded sandstone and shale cobbles; strongly acid.

Range in Characteristics

Thickness of the solum: 24 to 40 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 2 to 18 percent

Content of rock fragments in the control section: Ranges from 30 to 70 percent but averages more than 35 percent

Size of rock fragments: Dominantly rounded and subrounded gravel and cobbles

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: Strongly acid to slightly acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—2 or 3

Texture of the fine-earth fraction—loam

Content of rock fragments—15 to 30 percent

Bw horizon:

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 6

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

Content of rock fragments—15 to 60 percent

2C horizon:

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—sandy loam or loamy fine sand to loamy coarse sand

Content of rock fragments—30 to 70 percent

Clymer Series

Depth class: Deep

Drainage class: Well drained

Permeability: Moderate

Landform: Ridge on plateau

Elevation: 1,000 to 2,200 feet

Frost-free period: 110 to 140 days

Associated soils: Hazleton, Laidig, Buchanan, Cookport, and Leetonia

Taxonomic class: Coarse-loamy, siliceous, active, mesic Typic Hapludults

Typical Pedon

An area of Clymer channery loam, 0 to 8 percent slopes, extremely stony, on a 6-percent slope; gas pad above Crabapple Run; USGS Renovo East topographic quadrangle; lat. 41 degrees 16 minutes 45 seconds N. and long. 77 degrees 40 minutes 35 seconds W.

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- A—0 to 2 inches; very dark brown (10YR 2/2) channery loam; weak fine granular structure; very friable, nonsticky and nonplastic; 20 percent subangular sandstone channers; extremely acid; abrupt smooth boundary.
- E—2 to 3 inches; light brownish gray (10YR 6/2) channery sandy loam; weak fine granular structure; very friable, nonsticky and nonplastic; 20 percent subangular sandstone channers; extremely acid; abrupt smooth boundary.
- Bh—3 to 4 inches; brown (7.5YR 4/4) channery loam; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; 15 percent subangular sandstone channers; very strongly acid; abrupt smooth boundary.
- Bw—4 to 9 inches; brownish yellow (10YR 6/6) channery loam; weak fine and medium subangular blocky structure; very friable, nonsticky and nonplastic; 15 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- Bt—9 to 28 inches; yellowish brown (10YR 5/4) channery loam; weak medium subangular blocky structure; very friable, nonsticky and slightly plastic; few distinct clay films on sand and gravel; 20 percent subangular sandstone channers; very strongly acid; gradual smooth boundary.
- C—28 to 50 inches; brown (7.5YR 5/4) channery sandy loam; weak coarse subangular blocky structure; very friable, nonsticky and nonplastic; 35 percent subangular sandstone channers; very strongly acid; abrupt smooth boundary.
- R—50 inches; sandstone bedrock.

Range in Characteristics

Thickness of the solum: 24 to 40 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 18 to 30 percent

Content of rock fragments in the control section: 5 to 45 percent

Size of rock fragments: Dominantly subangular channers

Kind of rock fragments: Sandstone

Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:

Hue—10YR or 7.5YR

Value—2 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—loam

Content of rock fragments—15 to 30 percent

E horizon:

Hue—10YR

Value—5 or 6

Chroma—1 to 4

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

Content of rock fragments—5 to 30 percent

B horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 8

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

Content of rock fragments—5 to 35 percent

C horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 8

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Texture of the fine-earth fraction—loam, sandy loam, or silt loam
Content of rock fragments—10 to 50 percent

Comly Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Moderately slow

Landform: Footslope of ridge

Elevation: 600 to 1,000 feet

Frost-free period: 140 to 165 days

Associated soils: Weikert, Berks, Brinkerton, and Hartleton

Taxonomic class: Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

An area of Comly silt loam, 3 to 8 percent slopes, on a 3-percent slope; Beech Creek Township; 0.75 mile northeast of the village of Beech Creek and 800 feet northwest of McKivison Road, in a hayfield; USGS Beech Creek topographic quadrangle; lat. 41 degrees 05 minutes 15 seconds N. and long. 47 degrees 34 minutes 54 seconds W.

Ap—0 to 9 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine and medium granular structure; friable, nonsticky and nonplastic; very fine and fine roots throughout; 10 percent angular shale channers; moderately acid; abrupt smooth boundary.

Bt1—9 to 17 inches; yellowish brown (10YR 5/6) channery silt loam; weak subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; 20 percent angular shale channers; moderately acid; clear smooth boundary.

Bt2—17 to 23 inches; strong brown (7.5YR 5/6) channery silt loam; weak subangular blocky structure; friable, slightly sticky and slightly plastic; common prominent clay films on faces of peds and in pores; common medium light gray (10YR 6/2) iron depletions; 20 percent angular shale channers; moderately acid; clear smooth boundary.

Btx—23 to 48 inches; strong brown (7.5YR 5/6) very flaggy silt loam; strong very coarse prismatic structure; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores and few prominent black stains on faces of peds; common coarse light gray (10YR 7/2) iron depletions and common coarse yellowish red (5YR 5/6) masses of iron accumulation between peds; 40 percent angular shale flagstones; moderately acid; clear smooth boundary.

C—48 to 65 inches; strong brown (7.5YR 5/6) extremely flaggy silt loam; loose, nonsticky and nonplastic; common medium light brownish gray (10YR 6/2) iron depletions and common medium strong brown (7.5YR 5/8) masses of iron accumulation; 60 percent angular shale flagstones; strongly acid; abrupt smooth boundary.

R—65 to 75 inches; grayish brown (10YR 5/2) shale bedrock.

Range in Characteristics

Thickness of the solum: 40 to 70 inches

Depth to bedrock: 60 inches or more

Depth to the fragipan: 20 to 35 inches

Depth to redox depletions: 16 to 26 inches

Content of clay in the control section: 18 to 35 percent

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Content of rock fragments in the control section: 0 to 20 percent

Size of rock fragments: Dominantly angular channers above the C horizon and angular flagstones in the C horizon

Kind of rock fragments: Shale and siltstone

Reaction: Strongly acid to slightly acid

Ap horizon:

Hue—10YR

Value—3 to 5

Chroma—3 to 6

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 15 percent

Bt horizon:

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 to 6

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

Content of rock fragments—0 to 20 percent

Btx horizon:

Hue—7.5YR or 10YR

Value—5

Chroma—4 to 6

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

Content of rock fragments—10 to 50 percent

C horizon:

Hue—7.5YR or 10YR

Value—5

Chroma—6 to 8

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

Content of rock fragments—10 to 60 percent

Cookport Series

Depth class: Deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Ridge on plateau

Elevation: 1,600 to 2,350 feet

Frost-free period: 110 to 140 days

Associated soils: Clymer, Hazleton, Tilsit, Wharton, and Buchanan

Taxonomic class: Fine-loamy, mixed, active, mesic Aquic Fragiudults

Typical Pedon

An area of Cookport channery loam, 0 to 8 percent slopes, extremely stony, on a 5-percent slope; USGS Howard NW topographic quadrangle; lat. 41 degrees 12 minutes 39 seconds N. and long. 77 degrees 39 minutes 04 seconds W.

Oe—0 to 2 inches; dark brown (10YR 3/2) leaf litter; very friable, nonsticky and nonplastic.

A—2 to 3 inches; very dark brown (10YR 2/2) channery loam; weak fine granular structure; friable, nonsticky and nonplastic; common fine and medium roots throughout; 5 percent subangular sandstone gravel and 20 percent subangular sandstone channers; very strongly acid; abrupt smooth boundary.

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- BA—3 to 8 inches; brown (10YR 5/3) loam; weak fine and medium granular structure; friable, nonsticky and nonplastic; common fine and medium roots throughout; 5 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- Bw—8 to 13 inches; light yellowish brown (10YR 6/4) loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; common fine and medium roots throughout; 5 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- Bt1—13 to 19 inches; light yellowish brown (10YR 6/4) clay loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine and medium roots throughout; common distinct clay films on faces of peds and in pores; 5 percent subangular sandstone channers; very strongly acid; gradual smooth boundary.
- Bt2—19 to 22 inches; brownish yellow (10YR 6/6) loam; weak coarse subangular blocky structure; friable, nonsticky and slightly plastic; few fine and medium roots throughout; common distinct clay films on faces of peds and in pores; common medium distinct light gray (10YR 7/2) irregular iron depletions and common fine distinct yellowish red (5YR 5/8) irregular masses of iron accumulation throughout; 5 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- Btx1—22 to 32 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; firm, nonsticky and slightly plastic; few fine and medium roots throughout; common distinct clay films on faces of peds and in pores; many medium distinct light gray (10YR 7/2) irregular iron depletions and many medium distinct yellowish red (5YR 5/8) irregular masses of iron accumulation throughout; 5 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- Btx2—32 to 46 inches; strong brown (7.5YR 5/6) loam; moderate very coarse prismatic structure; firm, nonsticky and slightly plastic; few distinct clay films on faces of peds and in pores; many medium distinct light gray (10YR 7/1) irregular iron depletions and common fine distinct strong brown (7.5YR 5/8) irregular masses of iron accumulation throughout; 5 percent subangular sandstone channers; very strongly acid; clear smooth boundary.
- C—46 to 54 inches; yellowish brown (10YR 5/4) channery loam; weak very coarse subangular blocky structure; friable, nonsticky and nonplastic; common medium distinct light brownish gray (10YR 6/2) irregular iron depletions throughout; 20 percent subangular sandstone channers; very strongly acid; abrupt smooth boundary.
- R—54 inches; light yellowish brown (10YR 6/4) sandstone bedrock.

Range in Characteristics

Thickness of the solum: 28 to 48 inches

Depth to bedrock: 40 to 60 inches

Depth to the fragipan: 16 to 27 inches

Depth to redox depletions: 16 to 26 inches

Content of clay in the control section: 18 to 35 percent

Content of rock fragments in the control section: 0 to 30 percent

Size of rock fragments: Dominantly angular or subangular gravel with some subangular channers

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, strongly acid to extremely acid

A horizon:

Hue—7.5YR or 10YR

Value—2 or 3

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Chroma—1 to 3
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—0 to 30 percent

BA horizon:

Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—0 to 30 percent

Bt and Bw horizons (if they occur):

Hue—10 YR
Value—4 to 6
Chroma—4 to 8
Texture of the fine-earth fraction—loam or clay loam
Content of rock fragments—0 to 30 percent

Btx horizon:

Hue—10YR or 7.5 YR
Value—4 or 5
Chroma—3 to 6
Texture of the fine-earth fraction—clay loam or loam
Content of rock fragments—0 to 30 percent

C horizon:

Hue—10YR
Value—4 or 5
Chroma—2 to 6
Texture of the fine-earth fraction—loam
Content of rock fragments—15 to 40 percent

Craigsville Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately rapid or rapid

Landform: Flood plain in valley

Elevation: 550 to 1,050 feet

Frost-free period: 120 to 160 days

Associated soils: Buchanan, Laidig, Andover, Basher, and Barbour

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Fluventic Dystrudepts

Typical Pedon

Craigsville gravelly loam, in an area of Barbour-Craigsville complex, on a 3-percent slope; 1 mile south of South Renovo Reservoir near a stream; USGS Renovo West topographic quadrangle; lat. 41 degrees 17 minutes 08 seconds N. and long. 77 degrees 47 minutes 15 seconds W.

A—0 to 5 inches; dark brown (7.5YR 3/2) gravelly loam; weak fine and medium granular structure; very friable, slightly sticky and nonplastic; many fine to coarse roots throughout; 20 percent rounded sandstone and shale gravel and 5 percent rounded sandstone and shale cobbles; extremely acid; abrupt smooth boundary.

Bw1—5 to 16 inches; reddish brown (5YR 4/4) very gravelly loam; weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic;

Soil Survey of Clinton County, Pennsylvania

- many fine to coarse roots throughout; 40 percent rounded sandstone and shale gravel and 5 percent rounded sandstone and shale cobbles; extremely acid; gradual smooth boundary.
- Bw2—16 to 27 inches; reddish brown (5YR 4/3) very gravelly sandy loam; moderate medium and coarse subangular blocky structure; friable, moderately sticky and moderately plastic; common very fine and fine roots throughout; 50 percent rounded sandstone and shale gravel and 5 percent rounded sandstone and shale cobbles; extremely acid; gradual smooth boundary.
- BC—27 to 32 inches; reddish brown (5YR 4/4) very gravelly loam; weak medium subangular blocky structure and massive; friable, slightly sticky and slightly plastic; common very fine and fine roots throughout; 55 percent rounded sandstone and shale gravel and 5 percent rounded sandstone and shale cobbles; extremely acid; abrupt wavy boundary.
- C1—32 to 40 inches; reddish brown (5YR 4/4) extremely cobbly loam; massive; very friable, slightly sticky and slightly plastic; 35 percent rounded sandstone and shale gravel and 45 percent rounded sandstone and shale cobbles; extremely acid; gradual wavy boundary.
- C2—40 to 65 inches; brown (7.5YR 5/4) extremely gravelly sandy loam; massive; loose, nonsticky and nonplastic; 35 percent rounded sandstone and shale gravel and 45 percent rounded sandstone and shale cobbles; extremely acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 5 to 20 percent

Content of rock fragments in the control section: Ranges from 15 to 70 percent but averages more than 35 percent

Size of rock fragments: Dominantly rounded and subrounded gravel with some rounded cobbles

Kind of rock fragments: Sandstone

Reaction: In unlimed areas, very strongly acid or strongly acid

A horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—loam

Content of rock fragments—5 to 60 percent

Bw horizon:

Hue—5YR to 10YR

Value—4 or 5

Chroma—4 to 6

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

Content of rock fragments—35 to 70 percent

BC horizon:

Hue—5YR or 7.5YR

Value—4 or 5

Chroma—4 to 6

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

Content of rock fragments—35 to 70 percent

C horizon:

Hue—5YR to 10YR

Value—4 or 5

Chroma—3 to 6

Texture of the fine-earth fraction—sandy loam or loamy sand

Content of rock fragments—35 to 70 percent

Freetown Series

Depth class: Very deep

Drainage class: Very poorly drained

Permeability: Moderate or moderately rapid

Landform: Marsh on plateau

Elevation: 1,500 to 2,000 feet

Frost-free period: 110 to 140 days

Associated soils: Nolo, Cookport, Ungers, and Hazleton

Taxonomic class: Dysic, mesic Typic Haplosaprists

Typical Pedon

An area of Freetown mucky peat, on a 0-percent slope; USGS Tamarack topographic quadrangle; lat. 41 degrees 25 minutes 17 seconds N. and long. 77 degrees 50 minutes 15 seconds W.

Oi—0 to 12 inches; dark brown (7.5YR 3/2) hemic material; 70 percent unrubbed fiber, 45 percent rubbed; moderate very coarse subangular blocky structure; very friable, nonsticky and nonplastic; very strongly acid; clear smooth boundary.

Oe—12 to 21 inches; black (5YR 2/1) hemic material; 60 percent unrubbed fiber, 35 percent rubbed; massive; very friable, nonsticky and nonplastic; very strongly acid; gradual smooth boundary.

Oa—21 to 65 inches; dark reddish brown (5YR 3/2 and 2/2) sapric material; 35 percent unrubbed fiber, 10 percent rubbed; massive; very friable, nonsticky and nonplastic; very strongly acid.

Range in Characteristics

Thickness of the organic material: 51 inches or more

Depth to bedrock: More than 60 inches

Content of woody fragments in the control section: 35 to 70 percent unrubbed, 10 to 50 percent rubbed

Size of woody fragments: 1/8 inch to 6 inches in diameter

Kind of woody fragments: Twigs, branches, and logs

Reaction: Extremely acid to strongly acid throughout

Oi horizon:

Hue—5YR to 10YR or is neutral

Value—2 or 3

Chroma—0 to 2

Texture of the organic material—hemic

Content of woody fragments—35 to 80 percent unrubbed, 25 to 50 percent rubbed

Oe horizon:

Hue—5YR to 10YR or is neutral

Value—2 to 4

Chroma—0 to 4

Texture of the organic material—hemic

Content of woody fragments—30 to 65 percent unrubbed, 20 to 40 percent rubbed

Oa horizon:

Hue—5YR to 10YR or is neutral

Value—2 to 4

Chroma—0 to 4

Texture of the organic material—sapric

Content of woody fragments—15 to 40 percent unrubbed, less than 17 percent rubbed

Gilpin Series

Depth class: Moderately deep

Drainage class: Well drained

Permeability: Moderate

Landform: Mountain slope on plateau

Elevation: 1,500 to 2,350 feet

Frost-free period: 110 to 140 days

Associated soils: Clymer, Cookport, Wharton, and Tilsit

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

An area of Gilpin silt loam, 3 to 8 percent slopes, on a 3-percent slope; 1 mile southwest of Keating, on the south side of the road; USGS Keating topographic quadrangle; lat. 41 degrees 15 minutes 04 seconds N. and long. 77 degrees 55 minutes 36 seconds W.

Oa—0 to 1 inch; black (10YR 2/1) root mat; common very fine to medium roots throughout; 5 percent subrounded sandstone gravel; very strongly acid; abrupt wavy boundary.

A—1 to 3 inches; black (10YR 2/1) silt loam; weak fine granular structure; nonsticky and nonplastic; common very fine to medium roots throughout; 5 percent subrounded sandstone gravel; very strongly acid; clear wavy boundary.

E—3 to 4 inches; brown (10YR 5/3) silt loam; weak fine subangular blocky structure; nonsticky and nonplastic; common very fine to medium roots throughout; 5 percent subrounded sandstone gravel; very strongly acid; clear wavy boundary.

Bt1—4 to 11 inches; yellowish brown (10YR 5/6) channery silt loam; weak fine and medium subangular blocky structure; slightly sticky and nonplastic; common very fine to medium roots throughout; few faint clay films on faces of peds; 15 percent subangular sandstone channers; very strongly acid; clear smooth boundary.

Bt2—11 to 17 inches; yellowish brown (10YR 5/6) channery clay loam; moderate fine and medium subangular blocky structure; moderately sticky and moderately plastic; common medium roots throughout; few distinct clay films on faces of peds and in pores; 30 percent subangular sandstone channers; strongly acid; clear irregular boundary.

BC—17 to 29 inches; yellowish brown (10YR 5/4) extremely channery silty clay loam; weak medium platy structure; moderately sticky and moderately plastic; common fine roots in cracks; 90 percent subangular sandstone channers; strongly acid.

R—29 inches; grayish brown (10YR 5/2) shale bedrock.

Range in Characteristics

Thickness of the solum: 18 to 36 inches

Depth to bedrock: 20 to 40 inches

Content of clay in the control section: 15 to 30 percent

Content of rock fragments in the control section: 5 to 35 percent

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Size of rock fragments: Dominantly subrounded gravel and subangular channers

Kind of rock fragments: Sandstone and shale

Reaction: In unlimed areas, strongly acid to extremely acid throughout

A horizon:

Hue—10YR

Value—2 to 4

Chroma—1 to 3

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 15 percent

E horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 5

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 15 percent

Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 6

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

Content of rock fragments—10 to 30 percent

BC or C horizon (if it occurs):

Hue—7.5YR to 2.5Y

Value—3 to 5

Chroma—2 to 6

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

Content of rock fragments—30 to 90 percent

Hagerstown Series

Depth class: Deep or very deep (fig. 17)

Drainage class: Well drained

Permeability: Moderate

Landform: Low ridge in valley

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Opequon, Buchanan, Andover, and Timberville

Taxonomic class: Fine, mixed, semiactive, mesic Typic Hapludalfs

Typical Pedon

An area of Hagerstown silt loam, 0 to 3 percent slopes, on a 2-percent slope; at Parvin; USGS Beech Creek topographic quadrangle; lat. 41 degrees 03 minutes 25 seconds N. and long. 77 degrees 30 minutes 10 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; friable, nonsticky and nonplastic; 5 percent angular limestone and cherty gravel; neutral; abrupt smooth boundary.

Bt1—9 to 14 inches; yellowish red (5YR 5/6) silty clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky and moderately plastic; common distinct clay films on faces of peds and in pores; 5 percent angular limestone and cherty gravel; neutral; clear smooth boundary.

Bt2—14 to 44 inches; red (2.5YR 4/6) clay; moderate medium angular blocky structure; firm, very sticky and very plastic; many distinct clay films on faces of peds and in pores and few prominent black stains on faces of peds; few fine rounded iron and manganese concretions throughout; 5 percent angular limestone and cherty gravel; slightly acid; abrupt smooth boundary.

R—44 inches; dark gray (10YR 4/1) limestone bedrock.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: Ranges from 30 to 60 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 15 percent

Size of rock fragments: Dominantly angular gravel or channers in some pedons

Kind of rock fragments: Limestone and chert

Reaction: In unlimed areas, strongly acid to slightly acid throughout

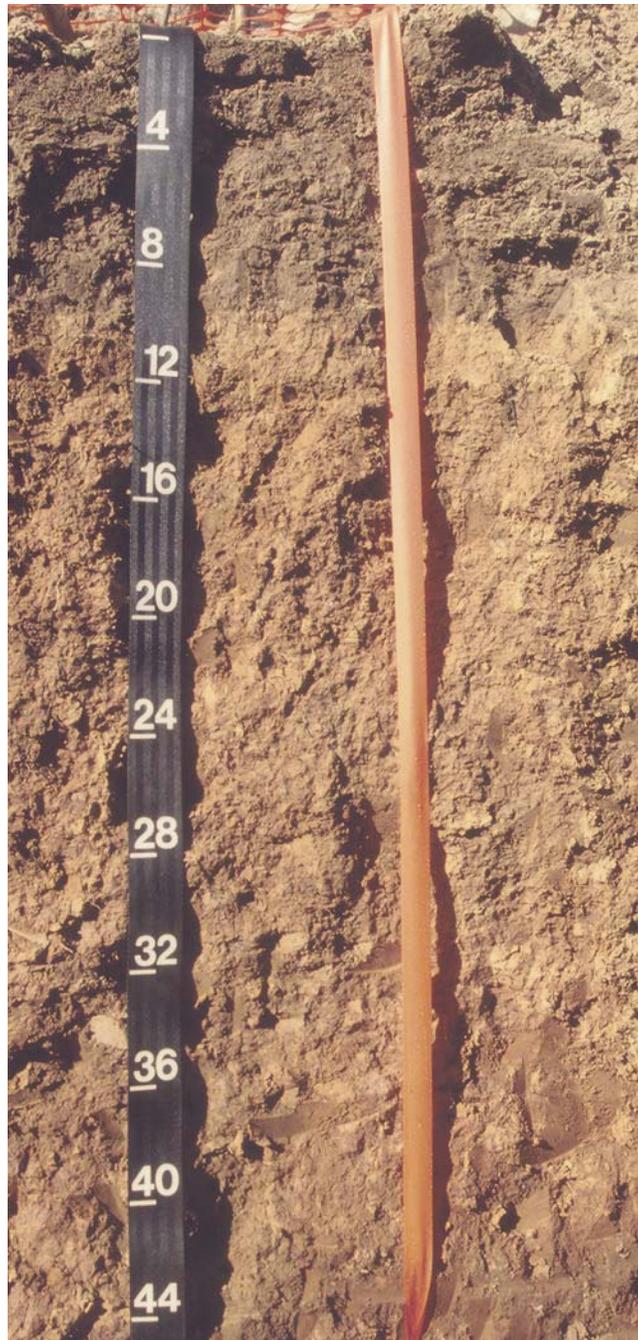


Figure 17.—Profile of a Hagerstown silt loam used for land judging. Depth is marked in inches.

Ap horizon:

Hue—5YR to 10YR

Value—3 to 5

Chroma—2 to 4

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

Content of rock fragments—0 to 5 percent

Bt horizon:

Hue—5YR or 2.5YR

Value—4 or 5

Chroma—4 to 8

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

Content of rock fragments—0 to 15 percent

Hartleton Series

Depth class: Deep (fig. 18)

Drainage class: Well drained

Permeability: Moderate or moderately rapid

Landform: Ridge in valley

Elevation: 600 to 1,100 feet

Frost-free period: 140 to 165 days

Associated soils: Berks, Weikert, Comly, and Brinkerton

Taxonomic class:

Loamy-skeletal, mixed,
active, mesic Typic
Hapludults

Typical Pedon

An area of Hartleton channery silt loam, 3 to 8 percent slopes, on a 3-percent slope; along Peters Hollow Road; USGS Beech Creek topographic quadrangle; lat. 41 degrees 05 minutes 41 seconds N. and long. 77 degrees 33 minutes 10 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) channery silt loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; common very fine and fine roots throughout; 15 percent subangular sandstone channers; abrupt smooth boundary.

Bt1—8 to 18 inches; yellowish brown (10YR 5/6) channery silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine and fine roots throughout; few faint yellowish brown (10YR



Figure 18.—Profile of a Hartleton channery silt loam. Depth is marked in inches.

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- 5/6) clay films on faces of peds; 15 percent subangular sandstone channers; gradual smooth boundary.
- Bt2—18 to 27 inches; yellowish brown (10YR 5/6) very channery silt loam; moderate medium subangular blocky structure; firm, moderately sticky and moderately plastic; few distinct yellowish brown (10YR 5/6) clay films on faces of peds; 35 percent subangular sandstone channers; gradual smooth boundary.
- Bt3—27 to 34 inches; yellowish brown (10YR 5/6) very channery silt loam; moderate medium subangular blocky structure; very firm, slightly sticky and slightly plastic; few distinct yellowish brown (10YR 5/6) clay films on faces of peds; 40 percent angular sandstone channers; gradual smooth boundary.
- C—34 to 42 inches; dark yellowish brown (10YR 4/6) extremely channery silt loam; massive; very firm, nonsticky and nonplastic; 80 percent angular sandstone channers; clear smooth boundary.
- Cr—42 to 48 inches; 90 percent angular sandstone channers; clear smooth boundary.
- R—48 inches; pale brown (10YR 6/3) sandstone bedrock.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 10 to 30 percent

Content of rock fragments in the control section: Ranges from 15 to 65 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Sandstone and siltstone

Reaction: In unlimed areas, strongly acid or very strongly acid throughout

Ap horizon:

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—15 to 30 percent

Bt horizon:

Hue—10YR to 5YR

Value—5 or 6

Chroma—4 to 6

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

Content of rock fragments—25 to 60 percent

C and Cr horizons (if they occur):

Hue—10YR to 5YR

Value—5 or 6

Chroma—4 to 6

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

Content of rock fragments—50 to 90 percent

Hazleton Series

Depth class: Deep

Drainage class: Well drained

Permeability: Moderately rapid or rapid

Landform: Mountains

Elevation: 800 to 2,200 feet

Soil Survey of Clinton County, Pennsylvania

Frost-free period: 130 to 165 days

Associated soils: Clymer, Laidig, Buchanan, and Cookport

Taxonomic class: Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts

Typical Pedon

Hazleton channery loam, in an area of Hazleton-Clymer channery loams, 3 to 8 percent slopes, on a 3-percent slope; Crawford Township; 1 mile east of the intersection of Shaw Mountain Road with Pine Road; USGS Loganton topographic quadrangle; lat. 41 degrees 06 minutes 18 seconds N. and long. 77 degrees 16 minutes 38 seconds W.

Oe—0 to 1 inch; brown (7.5YR 5/4), moderately decayed forest litter.

A—1 to 3 inches; very dark grayish brown (10YR 3/2) channery loam; weak fine granular structure; very friable, nonsticky and nonplastic; 20 percent angular sandstone channers; strongly acid; clear wavy boundary.

E—3 to 7 inches; grayish brown (10YR 5/2) channery sandy loam; weak medium granular structure; very friable, nonsticky and nonplastic; 25 percent angular sandstone channers; strongly acid; abrupt wavy boundary.

Bs—7 to 13 inches; reddish brown (5YR 4/4) channery sandy loam; weak medium granular structure; friable, nonsticky and nonplastic; 20 percent angular sandstone channers; very strongly acid; clear wavy boundary.

Bw1—13 to 21 inches; strong brown (7.5YR 5/6) channery sandy loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 25 percent angular sandstone channers and 5 percent angular sandstone flagstones; very strongly acid; gradual wavy boundary.

Bw2—21 to 37 inches; strong brown (7.5YR 5/6) channery sandy loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 30 percent angular sandstone channers and 5 percent angular sandstone flagstones; strongly acid; gradual wavy boundary.

Bw3—37 to 42 inches; strong brown (7.5YR 5/6) very channery sandy loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; 40 percent angular sandstone channers; very strongly acid; clear wavy boundary.

C—42 to 58 inches; dark yellowish brown (10YR 4/4) very channery sandy loam; massive; friable, nonsticky and nonplastic; 60 percent angular sandstone channers; very strongly acid; diffuse wavy boundary.

R—58 inches; yellowish brown (10YR 5/4) sandstone bedrock.

Range in Characteristics

Thickness of the solum: 35 to 50 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 15 to 30 percent

Content of rock fragments in the control section: 10 to 50 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Sandstone

Reaction: In unlimed areas, strongly acid to extremely acid

A horizon:

Hue—10YR

Value—2 to 4

Chroma—1 to 4

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

Content of rock fragments—10 to 30 percent

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E horizon:

Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture of the fine-earth fraction—sandy loam or loam
Content of rock fragments—10 to 30 percent

Bs horizon (if it occurs):

Hue—10YR
Value—3 or 4
Chroma—3 to 6
Texture of the fine-earth fraction—sandy loam or loam
Content of rock fragments—10 to 30 percent

Bw horizon:

Hue—10YR or 7.5YR
Value—3 to 6
Chroma—3 to 8
Texture of the fine-earth fraction—sandy loam or loam
Content of rock fragments—15 to 60 percent

C horizon:

Hue—10YR to 5YR
Value—3 to 6
Chroma—3 to 8
Texture of the fine-earth fraction—loam, sandy loam, or loamy sand
Content of rock fragments—35 to 80 percent

Hustontown Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Moderately slow

Landform: Footslope of valley side

Elevation: 800 to 1,400 feet

Frost-free period: 130 to 165 days

Associated soils: Meckesville, Leck Kill, Klinesville, and Calvin soils

Taxonomic class: Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

An area of Hustontown silt loam, 8 to 15 percent slopes, on a 12-percent slope; Sugar Run Valley, along the Allegheny Front, west of Lock Haven; USGS Farrandsville topographic quadrangle; lat. 41 degrees 08 minutes 51.5 seconds N. and long. 77 degrees 31 minutes 18 seconds W.

Ap—0 to 7 inches; dark brown (7.5YR 3/3) silt loam; moderate fine and medium subangular blocky structure; very friable, slightly sticky and slightly plastic; 10 percent sandstone channers; slightly acid; clear smooth boundary.

Bt1—7 to 14 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; 20 percent sandstone channers; slightly acid; clear smooth boundary.

Bt2—14 to 24 inches; brown (7.5YR 5/4) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces

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of peds and in pores; 20 percent sandstone channers; moderately acid; gradual wavy boundary.

Bt3—24 to 30 inches; reddish brown (5YR 4/4) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; fine and medium distinct reddish gray (5YR 5/2) irregular iron depletions between peds; 20 percent sandstone channers; moderately acid; gradual wavy boundary.

Btx1—30 to 36 inches; reddish brown (5YR 4/4) silt loam; strong coarse prismatic structure parting to moderate medium subangular blocky; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds; few irregular dark reddish gray (2.5YR 3/1) masses of iron and manganese accumulation throughout; fine and coarse prominent reddish gray (2.5YR 5/1) irregular iron depletions between peds; 20 percent sandstone channers and 10 percent cobbles; moderately acid; gradual wavy boundary.

Btx2—36 to 65 inches; reddish brown (5YR 4/4) silt loam; strong coarse prismatic structure parting to moderate medium subangular blocky; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds; few irregular dark reddish gray (2.5YR 3/1) masses of iron and manganese accumulation throughout; fine and coarse prominent reddish gray (2.5YR 5/1) irregular iron depletions between peds; 20 percent sandstone channers and 20 percent stones; moderately acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 18 to 32 inches

Depth to redox depletions: 16 to 26 inches

Content of clay in the control section: 18 to 35 percent

Content of rock fragments in the control section: 5 to 30 percent

Size of rock fragments: Dominantly subangular channers and a few rounded cobbles

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: Strongly acid or moderately acid throughout

Ap horizon:

Hue—5YR or 7.5YR

Value—2 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 15 percent

Bt horizon:

Hue—2.5YR or 5YR

Value—4 or 5

Chroma—3 to 6

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

Content of rock fragments—5 to 30 percent

Btx horizon:

Hue—5YR or 7.5YR

Value—4 or 5

Chroma—4 to 6

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

Content of rock fragments—10 to 50 percent

Klinesville Series

Depth class: Shallow

Drainage class: Somewhat excessively drained

Permeability: Moderately rapid

Landform: Ridge in valley

Elevation: 700 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Calvin, Leck Kill, Meckesville, and Hustontown

Taxonomic class: Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts

Typical Pedon

An area of Klinesville channery silt loam, 25 to 80 percent slopes, on a 46-percent slope; headwaters of Masden Run; USGS Beech Creek topographic quadrangle; lat. 41 degrees 07 minutes 16 seconds N. and long. 77 degrees 34 minutes 23 seconds W.

A—0 to 3 inches; dark reddish gray (5YR 4/2) channery silt loam; moderate medium granular structure; very friable, nonsticky and nonplastic; 20 percent subangular sandstone and shale channers; moderately acid; abrupt wavy boundary.

Bw—3 to 15 inches; reddish brown (2.5YR 5/4) channery silt loam; weak fine and medium subangular blocky structure; friable, nonsticky and nonplastic; 40 percent angular sandstone and shale channers; moderately acid; gradual wavy boundary.

C—15 to 17 inches; reddish brown (2.5YR 4/3) very flaggy silt loam; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; 45 percent angular sandstone and shale flagstones; very strongly acid; abrupt smooth boundary.

R—17 inches; dusky red (10R 3/3) shale bedrock.

Range in Characteristics

Thickness of the solum: 10 to 20 inches

Depth to bedrock: 10 to 20 inches

Content of clay in the control section: 15 to 25 percent

Content of rock fragments in the control section: Ranges from 15 to 70 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Shale, siltstone, and sandstone

Reaction: In unlimed areas, moderately acid to very strongly acid

A horizon:

Hue—5YR or 2.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—15 to 30 percent

Bw horizon:

Hue—5YR to 10R

Value—3 to 5

Chroma—3 to 6

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

Content of rock fragments—30 to 60 percent

C horizon:

Hue—2.5YR or 5YR

Value—3 or 4

Chroma—3 or 4

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

Content of rock fragments—40 to 70 percent

Kreamer Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Valley floor

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Hagerstown, Opequon, Buchanan, and Andover

Taxonomic class: Fine, illitic, mesic Aquic Hapludults

Typical Pedon

An area of Kreamer silt loam, 0 to 3 percent slopes, on a 2-percent slope; Lamar Township; 1 mile east of Route 220 and 800 feet south of Mackeyville Road; USGS Mill Hall topographic quadrangle; lat. 41 degrees 04 minutes 18 seconds N. and long. 77 degrees 25 minutes 46 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium granular structure; friable, slightly sticky and slightly plastic; 5 percent subrounded limestone, sandstone, and shale channers; moderately acid; abrupt smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common faint pale brown (10YR 6/3) iron depletions between peds; 10 percent subrounded limestone, sandstone, and shale channers; moderately acid; gradual smooth boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and few prominent black (10YR 2/1) manganese or iron and manganese stains on faces of peds; common medium distinct light gray (10YR 7/1) platelike iron depletions between peds; 10 percent subrounded limestone, sandstone, and shale channers; moderately acid; clear smooth boundary.

Bt1g—21 to 34 inches; grayish brown (10YR 5/2) clay loam; strong medium angular blocky structure; friable, slightly sticky and slightly plastic; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; common medium distinct light gray (10YR 7/1) platelike iron depletions between peds; 10 percent subrounded limestone, sandstone, and shale channers; moderately acid; abrupt smooth boundary.

Bt2g—34 to 48 inches; grayish brown (10YR 5/2) clay loam; strong medium angular blocky structure; friable, moderately sticky and moderately plastic; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; many medium and coarse prominent light gray (10YR 7/1) iron depletions between peds; 10 percent subrounded limestone, sandstone, and shale channers; moderately acid; clear smooth boundary.

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C—48 to 65 inches; brown (7.5YR 5/2) silty clay; massive; firm, moderately sticky and moderately plastic; 10 percent subrounded limestone, sandstone, and shale channers; moderately acid.

Range in Characteristics

Thickness of the solum: 40 to 75 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions: 15 to 24 inches

Content of clay in the control section: Ranges from 30 to 45 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 15 percent

Size of rock fragments: Dominantly subrounded channers

Kind of rock fragments: Limestone, sandstone, shale, and chert

Reaction: In unlimed areas, slightly acid to strongly acid throughout

Ap horizon:

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 15 percent

Bt horizon:

Hue—10YR or 7.5YR in the upper part ranging to 5YR in the lower part

Value—4 to 6

Chroma—4 to 6 ranging to 2 below a depth of 18 inches

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

Content of rock fragments—5 to 20 percent

C horizon:

Hue—10YR to 5YR

Value—4 or 5

Chroma—2 to 6

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

Content of rock fragments—5 to 20 percent

Laidig Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately slow or slow

Landform: Footslope of valley side

Elevation: 900 to 1,400 feet

Frost-free period: 110 to 165 days

Associated soils: Buchanan, Andover, Hazleton, Clymer, and Murrill

Taxonomic class: Fine-loamy, siliceous, active, mesic Typic Fragiudults

Typical Pedon

An area of Laidig gravelly loam, 0 to 8 percent slopes, extremely stony, on a 6-percent slope; Miller's farm, 0.75 mile east of Tylersville, south side of Fishing Creek; USGS Millheim topographic quadrangle; lat. 40 degrees 59 minutes 45 seconds N. and long. 77 degrees 24 minutes 44 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) gravelly loam; weak fine and medium granular structure; friable, nonsticky and nonplastic;

Soil Survey of Clinton County, Pennsylvania

- 15 percent subrounded sandstone gravel; strongly acid; abrupt smooth boundary.
- Bt1—3 to 10 inches; pale brown (10YR 6/3) gravelly loam; weak medium and coarse subangular blocky structure; friable, nonsticky and nonplastic; few faint clay films on faces of peds and in pores; 20 percent subrounded sandstone gravel; strongly acid; clear smooth boundary.
- Bt2—10 to 24 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; few distinct clay films on faces of peds and in pores; 20 percent subrounded sandstone gravel; strongly acid; gradual smooth boundary.
- Bt3—24 to 34 inches; yellowish brown (10YR 5/6) channery silty clay loam; weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; 20 percent subangular sandstone channers; moderately acid; clear smooth boundary.
- Btx—34 to 65 inches; strong brown (7.5YR 5/6) channery silty clay loam; weak coarse prismatic structure; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds and few prominent black stains on faces of peds; common fine distinct light brownish gray (10YR 6/2) irregular iron depletions and common fine distinct strong brown (7.5YR 5/8) irregular masses of accumulated iron throughout; 25 percent subangular sandstone channers; moderately acid.

Range in Characteristics

Thickness of the solum: 50 to 80 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 30 to 50 inches

Depth to redox depletions: 30 inches or more

Content of clay in the control section: 15 to 30 percent

Content of rock fragments in the control section: 5 to 35 percent

Size of rock fragments: Dominantly subrounded and subangular gravel and channers

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:

Hue—10YR

Value—2 to 5

Chroma—1 to 4

Texture of the fine-earth fraction—loam

Content of rock fragments—15 to 30 percent

Bt horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

Content of rock fragments—5 to 35 percent

Btx horizon:

Hue—10YR to 5YR

Value—4 to 6

Chroma—typically 3 to 6 but ranges to 2 below a depth of 30 inches in some pedons

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

Content of rock fragments—5 to 35 percent

Leck Kill Series

Depth class: Deep

Drainage class: Well drained

Permeability: Moderate or moderately rapid

Landform: Ridge in valley

Elevation: 700 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Klinesville, Hustontown, Meckesville, and Calvin

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

An area of Leck Kill channery silt loam, 15 to 25 percent slopes, on a 22-percent slope; Bald Eagle Township; about 1,000 feet northwest of Laurel Run Church; USGS Farrandsville topographic quadrangle; lat. 41 degrees 07 minutes 49 seconds N. and long. 77 degrees 33 minutes 15 seconds W.

Ap—0 to 6 inches; dark reddish gray (5YR 4/2) channery silt loam; moderate medium granular structure; very friable, nonsticky and nonplastic; 10 percent angular sandstone channers and 5 percent subangular sandstone channers; moderately acid; clear wavy boundary.

Bt1—6 to 14 inches; reddish brown (2.5YR 4/4) channery silt loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; few faint reddish brown (5YR 5/3) clay films on the lower surfaces of peds and rock fragments; 15 percent angular sandstone channers; moderately acid; gradual wavy boundary.

Bt2—14 to 34 inches; weak red (2.5YR 4/2) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint weak red (2.5YR 4/2) clay films on faces of peds; 25 percent angular sandstone channers and 15 percent angular sandstone flagstones; strongly acid; clear wavy boundary.

BC—34 to 39 inches; weak red (10R 4/3) very channery silt loam; strong medium subangular blocky structure; friable, nonsticky and nonplastic; 35 percent angular sandstone channers and 10 percent angular sandstone flagstones; very strongly acid; gradual wavy boundary.

C—39 to 42 inches; weak red (10R 4/3) very flaggy loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; 60 percent angular sandstone flagstones; very strongly acid.

R—42 inches; reddish brown (2.5YR 4/4) shale bedrock.

Range in Characteristics

Thickness of the solum: 24 to 48 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 15 to 35 percent

Content of rock fragments in the control section: 15 to 50 percent

Size of rock fragments: Dominantly angular channers in the upper part of the profile and angular flagstones in the lower part

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, very strongly acid to moderately acid

Ap horizon:

Hue—5YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

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Content of rock fragments—15 to 25 percent

Bt horizon:

Hue—5YR or 2.5YR

Value—3 to 5

Chroma—4 to 6

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

Content of rock fragments—10 to 40 percent

BC horizon (if it occurs):

Hue—10R or 2.5YR

Value—3 to 5

Chroma—3 to 6

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

Content of rock fragments—10 to 40 percent

C horizon:

Hue—5YR to 10R

Value—3 or 4

Chroma—4 to 6

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

Content of rock fragments—60 to 90 percent

Leetonia Series

Depth class: Deep

Drainage class: Well drained, somewhat excessively drained, or excessively drained

Permeability: Moderately rapid

Landform: Ridge on plateau

Elevation: 1,600 to 2,350 feet

Frost-free period: 110 to 140 days

Associated soils: Hazleton, Clymer, and Cookport

Taxonomic class: Sandy-skeletal, siliceous, mesic Entic Haplorthods

Typical Pedon

An area of Leetonia channery sandy loam, 0 to 8 percent slopes, extremely stony, on a 3-percent slope; Chapman Township; 1.75 miles west of Route 44 on Dry Run Road; USGS Slate Run topographic quadrangle; lat. 41 degrees 26 minutes 26 seconds N. and long. 77 degrees 36 minutes 34 seconds W.

A—0 to 2 inches; black (10YR 2/1) channery sandy loam; weak very fine granular structure; very friable, nonsticky and nonplastic; many fine and medium roots in mat at top of horizon; 15 percent subangular sandstone channers; extremely acid; abrupt smooth boundary.

E—2 to 10 inches; light brownish gray (10YR 6/2) channery coarse sand; single grain; loose, nonsticky and nonplastic; common fine to coarse roots throughout; very few distinct grayish brown (10YR 5/2) organic coatings throughout; 25 percent subangular sandstone channers; very strongly acid; abrupt irregular boundary.

Bhs—10 to 13 inches; black (10YR 2/1) loamy coarse sand; strong very coarse platy structure parting to strong medium angular blocky; very firm, nonsticky and nonplastic; common very fine and fine roots between peds; few distinct strong brown (7.5YR 4/6) iron stains on faces of peds; common medium and coarse cylindrical strong brown (7.5YR 4/6) hard iron concretions throughout; 10 percent subangular sandstone channers; extremely acid; abrupt irregular boundary.

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- Bs**—13 to 16 inches; strong brown (7.5YR 4/6) channery loamy coarse sand; strong very coarse platy structure parting to strong coarse subangular blocky; firm, nonsticky and nonplastic; common very fine and fine roots between peds; very few prominent black (10YR 2/1) manganese or iron and manganese stains on faces of peds and few prominent dark brown (10YR 3/3) organic coatings on faces of peds; common medium and coarse cylindrical strong brown (7.5YR 4/6) hard iron concretions throughout; 25 percent subangular sandstone channers; very strongly acid; clear irregular boundary.
- Bw1**—16 to 26 inches; yellowish brown (10YR 5/6) channery loamy coarse sand; weak medium subangular blocky structure parting to single grain; friable, nonsticky and nonplastic; common fine moderate tubular pores; very few distinct strong brown (7.5YR 4/6) iron stains throughout; few medium and coarse cylindrical strong brown (7.5YR 4/6) hard iron concretions throughout; 30 percent subangular sandstone channers; very strongly acid; gradual wavy boundary.
- Bw2**—26 to 36 inches; brownish yellow (10YR 6/6) very channery coarse sand; weak fine subangular blocky structure parting to single grain; very friable, nonsticky and nonplastic; common very fine and fine roots throughout; very few faint strong brown (7.5YR 4/6) iron stains throughout; 35 percent subangular sandstone channers; very strongly acid; gradual wavy boundary.
- C**—36 to 48 inches; brownish yellow (10YR 6/6) very channery coarse sand; single grain; loose, nonsticky and nonplastic; 40 percent subangular sandstone channers and 15 percent angular sandstone flagstones; very strongly acid; abrupt irregular boundary.
- R**—48 inches; sandstone bedrock, 50 percent light brownish gray (10YR 6/2) and 50 percent reddish yellow (7.5YR 6/6).

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 5 to 20 percent

Content of rock fragments in the control section: 35 to 60 percent

Size of rock fragments: Dominantly subangular channers

Kind of rock fragments: Sandstone

Reaction: Extremely acid or very strongly acid throughout

A horizon:

Hue—10YR or 7.5YR

Value—2 or 3

Chroma—1 or 2

Texture of the fine-earth fraction—sandy loam

Content of rock fragments—15 to 25 percent

E horizon:

Hue—10YR or 7.5YR

Value—5 or 6

Chroma—1 or 2

Texture of the fine-earth fraction—loamy sand or sand

Content of rock fragments—15 to 25 percent

Bh or Bs horizon:

Hue—10YR to 5YR

Value—2 to 4

Chroma—2 to 6

Texture of the fine-earth fraction—loamy sand or sandy loam

Content of rock fragments—25 to 40 percent

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Bw horizon:

Hue—10YR or 7.5YR

Value—5 or 6

Chroma—4 to 6

Texture of the fine-earth fraction—sand or loamy sand

Content of rock fragments—25 to 60 percent

C horizon:

Hue—10YR or 7.5YR

Value—5 to 7

Chroma—2 to 6

Texture of the fine-earth fraction—sand or loamy sand

Content of rock fragments—35 to 65 percent

Note: The sandy loam textures of the A, Bh, and Bs horizons do not affect the use and management of the soil.

Linden Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately rapid or rapid

Landform: Flood plain in river valley

Elevation: 520 to 1,000 feet

Frost-free period: 140 to 165 days

Associated soils: Philo, Atkins, Barbour, and Basher

Taxonomic class: Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon

An area of Linden silt loam, rarely flooded, on a 2-percent slope; Woodward Township; on a flood plain along the Susquehanna River, north and west of Lock Haven; USGS Lock Haven topographic quadrangle; lat. 41 degrees 09 minutes 25 seconds N. and long. 77 degrees 28 minutes 02 seconds W.

Ap—0 to 8 inches; dark grayish brown (10YR 3/3) silt loam; moderate very fine and fine granular structure; very friable, nonsticky and nonplastic; common fine roots throughout; moderately acid; abrupt smooth boundary.

Bw—8 to 18 inches; brown (7.5YR 4/4) silt loam; moderate very fine and fine subangular blocky structure; friable, slightly sticky and slightly plastic; common fine roots between pedis; moderately acid; gradual smooth boundary.

BC—18 to 42 inches; brown (7.5YR 4/4) silt loam; moderate very fine and fine subangular blocky structure; friable, slightly sticky and slightly plastic; common fine roots between pedis; moderately acid; clear smooth boundary.

C—42 to 70 inches; dark yellowish brown (10YR 4/4) fine sandy loam; massive; loose, nonsticky and nonplastic; moderately acid.

Range in Characteristics

Thickness of the solum: 24 to 50 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 10 to 20 percent

Content of rock fragments in the control section: 0 to 10 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, extremely acid to moderately acid

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Ap horizon:

Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 5 percent

Bw and BC horizons:

Hue—7.5YR or 5YR
Value—3 to 5
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam, loam, or sandy loam
Content of rock fragments—0 to 10 percent

C horizon:

Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture of the fine-earth fraction—loam to sandy loam above a depth of 40 inches and sandy loam to sand below 40 inches
Content of rock fragments—0 to 25 percent above a depth of 40 inches and 0 to 40 percent below 40 inches

Meckesville Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately slow

Landform: Footslope of mountain valley

Elevation: 700 to 1,100 feet

Frost-free period: 140 to 165 days

Associated soils: Hustontown, Leck Kill, and Ungers

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Fragiudults

Typical Pedon

An area of Meckesville silt loam, 3 to 8 percent slopes, on a 7-percent slope; Lamar Township; 0.25 mile west of the intersection of Rag Valley Road and Low Place Road on Rag Valley Road; USGS Loganton topographic quadrangle; lat. 41 degrees 03 minutes 02 seconds N. and long. 77 degrees 21 minutes 03 seconds W.

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

A—1 to 4 inches; dark reddish brown (5YR 3/3) silt loam; weak fine granular structure; friable, nonsticky and nonplastic; 5 percent subangular sandstone channers; very strongly acid; abrupt smooth boundary.

E—4 to 7 inches; reddish gray (5YR 4/3) loam; weak fine granular structure; friable, nonsticky and nonplastic; 5 percent subangular sandstone channers; very strongly acid; gradual wavy boundary.

Bt1—7 to 16 inches; reddish brown (5YR 4/4) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds; 15 percent subangular sandstone channers; strongly acid; gradual wavy boundary.

Bt2—16 to 28 inches; reddish brown (5YR 4/4) channery silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; 20 percent subangular sandstone channers; strongly acid; gradual wavy boundary.

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Bt3—28 to 35 inches; reddish brown (5YR 4/4) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and moderately plastic; few distinct clay films on faces of peds and in pores; 20 percent subangular sandstone channers; strongly acid; clear wavy boundary.

Btx1—35 to 53 inches; weak red (10R 4/4) channery silt loam; moderate very coarse prismatic structure; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; common fine and medium distinct pinkish gray (5YR 6/2) irregular iron depletions and common fine and medium distinct reddish brown (5YR 5/4) irregular masses of accumulated iron between peds; 25 percent subangular sandstone channers; strongly acid; clear wavy boundary.

Btx2—53 to 66 inches; weak red (10R 4/3) channery silt loam; moderate very coarse prismatic structure; firm, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; common fine and medium distinct pinkish gray (5YR 6/2) irregular iron depletions and common fine and medium distinct reddish brown (5YR 4/4) irregular masses of accumulated iron between peds; 25 percent subangular sandstone channers; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 80 inches

Depth to bedrock: More than 60 inches

Depth to the fragipan: 30 to 48 inches

Depth to redox depletions: More than 30 inches

Content of clay in the control section: 5 to 30 percent

Content of rock fragments in the control section: 10 to 30 percent

Size of rock fragments: Dominantly subangular channers

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:

Hue—5YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 15 percent

E horizon:

Hue—5YR or 7.5YR

Value—4 or 5

Chroma—3 or 4

Texture of the fine-earth fraction—loam

Content of rock fragments—5 to 20 percent

Bt horizon:

Hue—5YR

Value—4 or 5

Chroma—3 or 4

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

Content of rock fragments—10 to 30 percent

Btx horizon:

Hue—5YR to 10R

Value—3 or 4

Chroma—3 or 4

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

Content of rock fragments—15 to 45 percent

Melvin Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Moderate

Landform: Flood plain in valley

Flooding: Occasional

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Newark, Purdy, Atkins, Philo, and Basher

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Fluvaquentic
Endoaquepts

Typical Pedon

Melvin silt loam, in an area of Melvin and Newark silt loams, on a 1-percent slope; Beech Creek Township; south of Route 150 on the stream side near an old NYC Railroad grade; USGS Beech Creek topographic quadrangle; lat. 41 degrees 04 minutes 41 seconds N. and long. 77 degrees 33 minutes 23 seconds W.

Ap—0 to 12 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine and fine roots throughout; common fine and coarse distinct light brownish gray (10YR 6/2) iron depletions and many fine and coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation between peds; slightly acid; abrupt smooth boundary.

Bg1—12 to 22 inches; grayish brown (10YR 5/2) silty clay loam; weak medium subangular blocky structure; friable, moderately sticky and moderately plastic; common fine and medium platelike black (10YR 2/1) iron and manganese concretions between peds; common fine and coarse distinct light brownish gray (10YR 6/2) iron depletions and many fine and coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation between peds; moderately acid; clear smooth boundary.

Bg2—22 to 36 inches; grayish brown (10YR 5/2) silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; common medium and coarse platelike black (10YR 2/1) iron and manganese concretions between peds; common fine and coarse distinct light gray (10YR 7/1) iron depletions and many fine and coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation between peds; moderately acid; abrupt smooth boundary.

Cg—36 to 65 inches; reddish gray (2.5Y 6/1) gravelly loam; massive; friable, slightly sticky and slightly plastic; common coarse platelike black (10YR 2/1) iron and manganese concretions between peds; many fine and coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation; 20 percent rounded sandstone gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions or reduced matrix: Less than 6 inches

Content of clay in the control section: 15 to 30 percent

Content of rock fragments in the control section: 0 to 20 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

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Reaction: Slightly acid or moderately acid

Ap horizon:

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 5 percent

Bg horizon:

Hue—10YR or 2.5Y or is neutral

Value—4 to 6

Chroma—2 or less

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

Content of rock fragments—0 to 5 percent

Cg horizon:

Hue—10YR or 2.5Y or is neutral

Value—4 to 6

Chroma—2 or less

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

Content of rock fragments—0 to 20 percent

Morrison Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderate or moderately rapid

Landform: Ridge in valley

Elevation: 500 to 1,100 feet

Frost-free period: 140 to 165 days

Associated soils: Hagerstown, Opequon, and Timberville

Taxonomic class: Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

An area of Morrison channery sandy loam, 3 to 8 percent slopes, on a 7-percent slope; Porter Township; USGS Beech Creek topographic quadrangle; lat. 41 degrees 02 minutes 32 seconds N. and long. 77 degrees 33 minutes 20 seconds W.

A—0 to 1 inch; black (10YR 2/1) channery sandy loam; weak medium granular structure; friable, nonsticky and nonplastic; very fine to medium roots throughout; 15 percent subangular sandstone channers; strongly acid; abrupt smooth boundary.

E—1 to 13 inches; yellowish brown (10YR 5/6) channery sandy loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; very fine to medium roots throughout; 15 percent subangular sandstone channers; moderately acid; clear smooth boundary.

Bt1—13 to 18 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; very fine to medium roots throughout; few distinct clay bridging between sand grains; 10 percent subangular sandstone channers; strongly acid; clear smooth boundary.

Bt2—18 to 32 inches; yellowish red (5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very fine to medium roots throughout; common prominent clay bridging between sand grains;

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10 percent subangular sandstone channers; strongly acid; gradual smooth boundary.

Bt3—32 to 65 inches; yellowish red (5YR 4/8) sandy clay; weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; very fine to medium roots throughout; common prominent clay bridging between sand grains; 10 percent subangular sandstone channers; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 70 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 15 to 35 percent

Content of rock fragments in the control section: 5 to 35 percent

Size of rock fragments: Dominantly subangular channers

Kind of rock fragments: Sandstone and chert

Reaction: In unlimed areas, strongly acid or moderately acid

A horizon:

Hue—10YR or 7.5YR

Value—2 to 4

Chroma—1 to 3

Texture of the fine-earth fraction—sandy loam

Content of rock fragments—15 to 20 percent

E horizon:

Hue—10YR

Value—4 to 6

Chroma—2 to 8

Texture of the fine-earth fraction—sandy loam or loamy sand

Content of rock fragments—5 to 20 percent

Bt horizon:

Hue—7.5YR or 5YR

Value—4 to 6

Chroma—4 to 8

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

Content of rock fragments—5 to 20 percent in the upper part and 5 to 35 percent in the lower part

C horizon (if it occurs):

Hue—5YR to 10YR

Value—4 or 5

Chroma—6 to 8

Texture of the fine-earth fraction—sandy loam or loamy sand

Content of rock fragments—5 to 40 percent

Murrill Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderate or moderately slow

Landform: Valley side

Elevation: 700 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Andover, Buchanan, Hagerstown, and Laidig

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

An area of Murrill silt loam, 3 to 8 percent slopes, on a 5-percent slope; Greene Township; 1.25 miles southeast of Loganton, 0.25 mile east of Route 477, and 1,800 feet south of the highway; USGS Loganton topographic quadrangle; lat. 41 degrees 00 minutes 44 seconds N. and long. 77 degrees 18 minutes 03 seconds W.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; 10 percent subangular sandstone and shale gravel; moderately acid; abrupt smooth boundary.

BE—8 to 15 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; 15 percent subangular sandstone and shale gravel; moderately acid; gradual smooth boundary.

Bt—15 to 52 inches; brownish yellow (10YR 6/6) gravelly silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; few distinct clay films throughout; 30 percent subangular sandstone and shale gravel; strongly acid; clear smooth boundary.

2Bt—52 to 72 inches; silty clay loam, 60 percent red (2.5YR 4/6), 20 percent strong brown (7.5YR 5/6), and 20 percent light brown (7.5YR 6/4); weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films throughout; 10 percent subangular sandstone gravel; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Depth to bedrock: More than 6 feet

Content of clay in the control section: 20 to 35 percent

Content of rock fragments in the control section: 10 to 30 percent

Size of rock fragments: Dominantly subangular gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, moderately acid to very strongly acid

Ap horizon:

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—10 to 15 percent

BE horizon:

Hue—10YR

Value—5 or 6

Chroma—4 to 6

Texture of the fine-earth fraction—silt loam

Content of rock fragments—10 to 20 percent

Bt horizon:

Hue—10YR to 5YR

Value—5 or 6

Chroma—4 to 6

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

Content of rock fragments—5 to 30 percent

2Bt horizon:

Hue—2.5YR to 7.5YR

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Value—4 or 5

Chroma—4 to 6

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

Content of rock fragments—10 to 40 percent

Newark Series

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Moderate

Landform: Flood plain in a valley

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Melvin, Purdy, and Atkins

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Newark silt loam, in an area of Melvin and Newark silt loams, on a 2-percent slope; USGS Beech Creek topographic quadrangle; lat. 41 degrees 04 minutes 42 seconds N. and long. 77 degrees 33 minutes 24 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; very friable, slightly sticky and slightly plastic; common very fine and fine roots throughout; moderately acid; abrupt smooth boundary.

Bw—8 to 14 inches; brown (10YR 5/3) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common fine and medium distinct brownish yellow (10YR 6/6) masses of iron accumulation between peds; slightly acid; gradual smooth boundary.

Bg1—14 to 24 inches; silty clay loam, 70 percent light brownish gray (10YR 6/2) and 30 percent brownish yellow (10YR 6/6); moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few prominent black (10YR 2/1) manganese or iron and manganese stains on faces of peds; common fine and coarse prominent light gray (10YR 7/1) irregular iron depletions and common fine and coarse prominent strong brown (7.5YR 5/8) irregular masses of iron accumulation between peds; slightly acid; gradual smooth boundary.

Bg2—24 to 39 inches; silty clay loam, 80 percent light brownish gray (10YR 6/2) and 20 percent brownish yellow (10YR 6/6); moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few prominent black (10YR 2/1) manganese or iron and manganese stains on faces of peds; common fine and medium platelike black (10YR 2/1) masses of iron and manganese accumulation between peds; common fine and coarse prominent white (10YR 8/1) irregular iron depletions and common coarse prominent strong brown (7.5YR 5/8) irregular masses of iron accumulation between peds; moderately acid; clear smooth boundary.

Cg—39 to 65 inches; light brownish gray (10YR 6/2) gravelly silt loam; massive; firm, slightly sticky and slightly plastic; few prominent black (10YR 2/1) manganese or iron and manganese stains on faces of peds; common fine and medium platelike black (10YR 2/1) masses of iron and manganese accumulation between peds; 15 percent rounded sandstone gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 30 to 50 inches

Depth to bedrock: More than 60 inches

Soil Survey of Clinton County, Pennsylvania

Depth to redox depletions or reduced matrix: Less than 6 inches

Content of clay in the control section: 15 to 30 percent

Content of rock fragments in the control section: 0 to 10 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: Moderately acid or slightly acid

Ap horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 5 percent

Bw horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—3 or 4

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

Content of rock fragments—0 to 5 percent

Bg horizon:

Hue—10YR or 2.5Y or is neutral

Value—4 to 6

Chroma—2 or less

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

Content of rock fragments—0 to 5 percent above a depth of 30 inches and 5 to 15 percent below 30 inches

Cg horizon:

Hue—10YR or 2.5Y or is neutral

Value—4 to 7

Chroma—2 or less

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

Content of rock fragments—5 to 15 percent

Nolo Series

Depth class: Deep

Drainage class: Poorly drained

Permeability: Slow

Landform: Depression on plateau

Elevation: 1,600 to 2,200 feet

Frost-free period: 110 to 130 days

Associated soils: Cookport, Hazleton, Clymer, Wharton, and Tilsit

Taxonomic class: Fine-loamy, mixed, superactive, mesic Typic Fragiaquults

Typical Pedon

An area of Nolo silt loam, 0 to 3 percent slopes, extremely stony, on a 2-percent slope; Beech Creek Township; USGS Snow Shoe NE topographic quadrangle; lat. 41 degrees 12 minutes 10 seconds N. and long. 77 degrees 46 minutes 10 seconds W.

Oa—0 to 3 inches; black (7.5YR 2/1), stony, highly decomposed organic matter; single grain; loose, nonsticky and nonplastic; 20 percent subangular sandstone stones; abrupt wavy boundary.

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- A—3 to 5 inches; black (10YR 2/1) stony silt loam; weak medium granular structure; very friable, slightly sticky and slightly plastic; 25 percent subangular sandstone stones; very strongly acid; clear wavy boundary.
- Btg1—5 to 14 inches; yellowish brown (10YR 5/2) channery silt loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds and in pores; common fine distinct strong brown (7.5YR 5/8) irregular masses of iron accumulation throughout; 15 percent subangular sandstone and shale channers; very strongly acid; clear smooth boundary.
- Btg2—14 to 19 inches; light brownish gray (10YR 6/2) channery silt loam; moderate medium and coarse subangular blocky structure; firm, slightly sticky and slightly plastic; few faint clay films on faces of peds and in pores; common fine and medium distinct strong brown (7.5YR 5/8) irregular masses of iron accumulation throughout; 15 percent subangular sandstone and shale channers; very strongly acid; clear smooth boundary.
- Btgx1—19 to 34 inches; light brownish gray (10YR 6/2) channery loam; weak very coarse prismatic and strong medium and coarse platy structure; very firm, nonsticky and nonplastic; few prominent clay films on faces of peds and in pores; common fine and coarse prominent strong brown (7.5YR 5/8) and common fine and medium distinct dark yellowish brown (10YR 4/6) irregular masses of iron accumulation; 20 percent subangular sandstone and shale channers; very strongly acid; gradual smooth boundary.
- Btgx2—34 to 44 inches; light brownish gray (10YR 6/2) channery loam; moderate very coarse prismatic and strong medium and coarse platy structure; very firm, nonsticky and nonplastic; few distinct clay films on faces of peds and in pores; common fine and medium distinct dark yellowish brown (10YR 4/6) and common fine and coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation; 30 percent subangular sandstone and shale channers; very strongly acid.
- R—44 inches; sandstone bedrock.

Range in Characteristics

Thickness of the solum: 40 to 55 inches
Depth to bedrock: 40 to 60 inches
Depth to the fragipan: 16 to 30 inches
Depth to redox depletions or reduced matrix: Less than 6 inches
Content of clay in the control section: 5 to 25 percent
Content of rock fragments in the control section: 5 to 20 percent
Size of rock fragments: Dominantly subangular channers
Kind of rock fragments: Sandstone and shale
Reaction: In unlimed areas, very strongly acid or extremely acid

A horizon:

Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture of the fine-earth fraction—silt loam
Content of rock fragments—5 to 15 percent

Bt horizon:

Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—5 to 20 percent

Btgx horizon:

Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture of the fine-earth fraction—loam
Content of rock fragments—10 to 35 percent

Opequon Series

Depth class: Shallow

Drainage class: Well drained

Permeability: Moderately slow or moderate

Landform: Ridge in valley

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Hagerstown, Timberville, Buchanan, and Andover

Taxonomic class: Clayey, mixed, active, mesic Lithic Hapludalfs

Typical Pedon

Opequon silty clay loam, in an area of Opequon-Hagerstown silty clay loams, 15 to 25 percent slopes, on a 22-percent slope; Porter Township, near Parvin; USGS Beech Creek topographic quadrangle; lat. 41 degrees 03 minutes 18 seconds N. and long. 77 degrees 30 minutes 35 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) silty clay loam; moderate medium granular structure; friable; 10 percent angular limestone and cherty gravel; moderately acid; abrupt smooth boundary.

Bt—7 to 14 inches; yellowish red (5YR 5/6) clay loam; moderate medium angular blocky structure; firm; common distinct clay films on faces of peds and in pores; 10 percent angular limestone and cherty gravel; moderately acid; abrupt wavy boundary.

R—14 inches; dark gray (10YR 4/1) limestone bedrock.

Range in Characteristics

Thickness of the solum: 12 to 20 inches

Depth to bedrock: 12 to 20 inches

Content of clay in the control section: Ranges from 30 to 60 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 30 percent

Size of rock fragments: Dominantly angular gravel

Kind of rock fragments: Limestone or chert

Reaction: In unlimed areas, strongly acid to slightly acid

Ap horizon:

Hue—5YR to 10YR
Value—3 to 6
Chroma—1 to 4
Texture of the fine-earth fraction—silty clay loam
Content of rock fragments—0 to 15 percent

Bt horizon:

Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—clay, silty clay loam, or silty clay

Content of rock fragments—0 to 30 percent

Pennval Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately slow to moderately rapid

Landform: Foothlope of valley side

Elevation: 700 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Laidig, Buchanan, Berks, and Weikert

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

An area of Pennval silt loam, 15 to 35 percent slopes, very stony, on an 18-percent slope; Porter Township; 1.2 miles south of Route 64 along Fishing Creek and 150 feet east of the highway; USGS Madisonburg topographic quadrangle; lat. 40 degrees 59 minutes 43 seconds N. and long. 77 degrees 31 minutes 36 seconds W.

Oe—0 to 1 inch; black (10YR 2/1), moderately decomposed organic matter; very strongly acid.

A—1 to 2 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable, nonsticky and nonplastic; 10 percent subrounded sandstone gravel; very strongly acid; abrupt wavy boundary.

E—2 to 5 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate medium subangular blocky structure; friable, nonsticky and nonplastic; 10 percent subrounded sandstone gravel; strongly acid; clear smooth boundary.

Bt1—5 to 13 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; very few clay films on faces of peds and in pores; 25 percent subrounded sandstone gravel; strongly acid; gradual wavy boundary.

Bt2—13 to 29 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate coarse subangular blocky structure; friable, nonsticky and nonplastic; very few clay films on faces of peds and in pores; 30 percent subrounded sandstone gravel; strongly acid; clear wavy boundary.

2Bt3—29 to 43 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate coarse subangular blocky structure; firm, nonsticky and nonplastic; common distinct clay films on faces of peds and in pores and common manganese or iron and manganese stains; 30 percent subrounded sandstone gravel; moderately acid; clear wavy boundary.

2Bt4—43 to 73 inches; yellowish red (5YR 4/6) and red (2.5YR 4/6) gravelly clay loam; strong coarse subangular blocky structure; firm, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores and few manganese or iron and manganese stains; 25 percent subrounded sandstone gravel; moderately acid; gradual wavy boundary.

3C—73 to 88 inches; strong brown (7.5YR 5/6) extremely gravelly clay loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; 90 percent angular shale channers; moderately acid; clear smooth boundary.

3R—88 to 98 inches; gray (10YR 5/1) shale bedrock.

Range in Characteristics

Thickness of the solum: 40 to 80 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 20 to 30 percent

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Content of rock fragments in the control section: 5 to 30 percent

Size of rock fragments: Dominantly subrounded gravel with some subangular channers in the lower part of the profile

Kind of rock fragments: Sandstone and shale

Reaction: In unlimed areas, very strongly acid to moderately acid

A horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 20 percent

E horizon:

Hue—10YR or 2.5Y

Value—6

Chroma—3 or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—5 to 20 percent

Bt horizon:

Hue—10YR

Value—5 or 6

Chroma—4 to 8

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

Content of rock fragments—10 to 30 percent

2Bt horizon:

Hue—5YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

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

Content of rock fragments—0 to 30 percent

3C horizon:

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

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

Content of rock fragments—20 to 90 percent

Philo Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Moderate

Landform: Flood plain in valley

Flooding: Occasional

Elevation: 520 to 1,300 feet

Frost-free period: 140 to 165 days

Associated soils: Linden, Basher, and Barbour

Taxonomic class: Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

Typical Pedon

An area of Philo silt loam, on a 1-percent slope; south side of Fishing Creek, 1 mile east of Tylersville; USGS Millheim topographic quadrangle; lat. 40 degrees 59 minutes 47 seconds N. and long. 77 degrees 24 minutes 55 seconds W.

- Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak fine and medium granular structure; friable, nonsticky and nonplastic; 10 percent rounded sandstone gravel; slightly acid; abrupt smooth boundary.
- Bw1—10 to 24 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; 10 percent rounded sandstone gravel; moderately acid; clear smooth boundary.
- Bw2—24 to 30 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions and common fine and medium distinct strong brown (7.5YR 5/8) masses of iron throughout; 10 percent rounded sandstone gravel; moderately acid; clear smooth boundary.
- Bw3—30 to 40 inches; pale brown (10YR 6/3) silt loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; common medium distinct light brownish gray (10YR 6/2) iron depletions and many medium distinct yellowish red (5YR 5/8) masses of iron throughout; 10 percent rounded sandstone gravel; moderately acid; clear smooth boundary.
- 2C—40 to 65 inches; yellowish brown (10YR 5/4) very gravelly sandy loam; single grain; loose, nonsticky and nonplastic; 50 percent rounded sandstone gravel; moderately acid.

Range in Characteristics

Thickness of the solum: 20 to 48 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions: 16 to 28 inches

Content of clay in the control section: 10 to 25 percent

Content of rock fragments in the control section: 0 to 20 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, very strongly acid to moderately acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 or 3

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 15 percent

Bw horizon:

Hue—10YR or 7.5YR

Value—3 to 6

Chroma—3 or 4

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

Content of rock fragments—0 to 20 percent

C horizon (if it occurs):

Hue—10YR or 7.5YR or is neutral

Value—4 to 6

Chroma—0 to 4

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

Content of rock fragments—0 to 30 percent

2C horizon:

Hue—10YR or 7.5YR or is neutral

Value—4 to 6

Chroma—0 to 4

Texture of the fine-earth fraction—loam to loamy sand

Content of rock fragments—0 to 60 percent

Potomac Series

Depth class: Very deep

Drainage class: Somewhat excessively drained

Permeability: Rapid or very rapid

Landform: Flood plain in river valley

Flooding: Frequent

Elevation: 500 to 650 feet

Frost-free period: 140 to 165 days

Associated soils: Linden, Barbour, Basher, and Philo

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Udifluvents

Typical Pedon

An area of Potomac gravelly sandy loam, on a 1-percent slope; Colebrook Township; 1 mile west of Farrandville on the upstream end of an unnamed island in the river; USGS Farrandville topographic quadrangle; lat. 41 degrees 10 minutes 14 seconds N. and long. 77 degrees 32 minutes 17 seconds W.

A—0 to 4 inches; dark brown (7.5YR 4/4) gravelly sandy loam; massive; loose, nonsticky and nonplastic; 20 percent well rounded sandstone gravel and 10 percent well rounded sandstone cobbles; strongly acid; clear wavy boundary.

C—4 to 65 inches; dark yellowish brown (10YR 4/4) extremely gravelly coarse sand; massive; loose, nonsticky and nonplastic; 40 percent well rounded sandstone gravel and 30 percent well rounded sandstone cobbles; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Content of rock fragments in the control section: 35 to 70 percent

Size of rock fragments: Dominantly rounded gravel and cobbles

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: Strongly acid or very strongly acid

A horizon:

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 to 4

Texture of the fine-earth fraction—sandy loam

Content of rock fragments—0 to 50 percent

C horizon:

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—3 or 4

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

Content of rock fragments—35 to 70 percent

Purdy Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Very slow or slow

Landform: Terrace in valley

Elevation: 550 to 800 feet

Frost-free period: 140 to 165 days

Associated soils: Zoar, Comly, Berks, Melvin, and Newark

Taxonomic class: Fine, mixed, active, mesic Typic Endoaquults

Typical Pedon

An area of Purdy silt loam, 0 to 3 percent slopes, on a 1-percent slope; Beech Creek Township; about 1,200 feet north of Route 150; USGS Beech Creek topographic quadrangle; lat. 41 degrees 04 minutes 44 seconds N. and long. 77 degrees 33 minutes 35 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; very strongly acid; abrupt wavy boundary.

Bt1g—7 to 22 inches; light brownish gray (2.5Y 6/2) silty clay loam; common fine and medium distinct strong brown (7.5YR 5/6) irregular iron concentrations between peds; weak coarse subangular blocky structure; friable, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores; strongly acid; clear wavy boundary.

Bt2g—22 to 44 inches; dark gray (10YR 4/1) silty clay; common fine and medium distinct strong brown (7.5YR 5/6) irregular iron concentrations between peds; weak very coarse prismatic structure; friable, slightly sticky and slightly plastic; common distinct clay films on faces of peds and in pores; strongly acid; gradual wavy boundary.

Cg—44 to 60 inches; gray (10YR 5/1) clay; weak very coarse prismatic structure; friable, moderately sticky and moderately plastic; few faint clay films on ped faces; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 50 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions or reduced matrix: Less than 6 inches

Content of clay in the control section: Ranges from 30 to 60 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 5 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, strongly acid to extremely acid

Ap horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—1 or 2

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 5 percent

Btg horizon:

Hue—10YR to 5Y

Value—4 to 6

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Chroma—1 or 2

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

Content of rock fragments—0 to 5 percent

Cg horizon:

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

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

Content of rock fragments—0 to 5 percent

Tilsit Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Ridge on plateau

Elevation: 1,600 to 2,350 feet

Frost-free period: 110 to 140 days

Associated soils: Gilpin, Wharton, Cookport, and Clymer

Taxonomic class: Fine-silty, mixed, semiactive, mesic Typic Fragiudults

Typical Pedon

An area of Tilsit silt loam, 0 to 3 percent slopes, on a 2-percent slope; Leidy Township; USGS Renovo West topographic quadrangle; lat. 41 degrees 22 minutes 03 seconds N. and long. 77 degrees 46 minutes 00 seconds W.

Oe—0 to 1 inch; black (10YR 2/1), moderately decomposed organic matter.

A—1 to 2 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; many very fine and fine roots throughout; very strongly acid; abrupt smooth boundary.

Bw—2 to 7 inches; red (2.5Y 5/6) silt loam; weak fine and medium granular structure; very friable, slightly sticky and slightly plastic; many very fine to medium roots throughout; very few faint clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt1—7 to 15 inches; light red (2.5Y 6/6) silty clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots throughout; few distinct clay films on faces of peds and in pores; 5 percent subangular siltstone channers; very strongly acid; gradual wavy boundary.

Bt2—15 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky and moderately plastic; few fine roots throughout; common distinct clay films on faces of peds and in pores; common fine faint light brownish gray (10YR 6/2) irregular iron depletions throughout and common fine faint yellowish brown (10YR 5/8) irregular masses of iron accumulation throughout; 5 percent subangular siltstone channers; very strongly acid; clear smooth boundary.

Btx1—19 to 40 inches; dark yellowish brown (10YR 4/4) silty clay loam; strong very coarse prismatic structure parting to weak medium subangular blocky; very firm, moderately sticky and moderately plastic; few fine roots between peds; few prominent clay films on faces of peds and in pores; common fine and medium prominent gray (10YR 6/1) irregular iron depletions and common fine and medium prominent yellowish brown (10YR 5/8) irregular masses of iron between peds; 5 percent subangular siltstone channers; very strongly acid; gradual wavy boundary.

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- Btx2—40 to 60 inches; strong brown (7.5YR 4/6) silty clay loam; strong very coarse prismatic structure; very firm, moderately sticky and moderately plastic; few prominent clay films on faces of peds and in pores; common fine and medium prominent light gray (10YR 7/1) irregular iron depletions and common fine and medium prominent strong brown (7.5YR 5/8) irregular masses of iron accumulation between peds; 2 percent subangular siltstone channers; very strongly acid; gradual wavy boundary.
- C—60 to 65 inches; brown (7.5YR 4/4) silty clay loam; massive; firm; 10 percent subangular siltstone channers; very strongly acid.

Range in Characteristics

- Thickness of the solum:* 40 to 60 inches
Depth to bedrock: More than 60 inches
Depth to the fragipan: 18 to 28 inches
Depth to redox depletions: 15 to 24 inches
Content of clay in the control section: 25 to 40 percent
Content of rock fragments in the control section: 0 to 35 percent
Size of rock fragments: Dominantly subangular channers
Kind of rock fragments: Shale, siltstone, and some sandstone
Reaction: In unlimed areas, very strongly acid or strongly acid throughout

A horizon:

- Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

Bw horizon:

- Hue—2.5Y or 10YR
Value—4 to 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

Bt horizon:

- Hue—2.5Y or 10YR
Value—4 to 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 10 percent in the upper part and 0 to 30 percent in the lower part

Btx horizon:

- Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 40 percent

C horizon:

- Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—10 to 50 percent

Timberville Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderate

Landform: Swale in valley

Elevation: 600 to 1,400 feet

Frost-free period: 140 to 165 days

Associated soils: Hagerstown and Opequon

Taxonomic class: Fine, mixed, active, mesic Typic Hapludults

Typical Pedon

An area of Timberville silt loam, 3 to 8 percent slopes, on a 3-percent slope; Porter Township; 125 feet west of a hedgerow and 600 feet southwest of farm buildings, in a backhoe pit; USGS Beech Creek topographic quadrangle; lat. 41 degrees 01 minute 17 seconds N. and long. 77 degrees 32 minutes 03 seconds W.

Ap—0 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium granular structure; friable, slightly sticky and slightly plastic; neutral; abrupt smooth boundary.

Bw—12 to 24 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; friable, moderately sticky and moderately plastic; neutral; gradual smooth boundary.

Bt1—24 to 32 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium and coarse subangular blocky structure; friable, moderately sticky and moderately plastic; common distinct clay films on faces of peds; very few distinct black (10YR 2/1) manganese or iron and manganese stains on faces of peds; 1 percent angular limestone and cherty gravel; slightly acid; clear smooth boundary.

Bt2—32 to 40 inches; brown (7.5YR 5/4) silty clay; moderate medium subangular blocky structure; friable, moderately sticky and moderately plastic; common prominent clay films on faces of peds; very few distinct black (10YR 2/1) manganese or iron and manganese stains on faces of peds and common fine faint pale brown (10YR 6/3) irregular iron depletions and common fine distinct yellowish red (5YR 5/8) irregular masses of accumulated iron throughout; 1 percent angular limestone and cherty gravel; slightly acid; clear wavy boundary.

2Bt3—40 to 54 inches; yellowish red (5YR 5/6) clay loam; weak coarse subangular blocky structure parting to moderate medium platy; friable, slightly sticky and slightly plastic; common prominent clay films on faces of peds; few distinct manganese or iron and manganese stains on faces of peds; slightly acid; clear wavy boundary.

2Bt4—54 to 65 inches; reddish brown (5YR 4/4) silty clay loam; moderate medium and coarse platy structure parting to moderate medium angular blocky; firm, slightly sticky and slightly plastic; common prominent clay films on faces of peds and few distinct manganese or iron and manganese stains on faces of peds; 10 percent rounded limestone, sandstone, and shale gravel; neutral.

Range in Characteristics

Thickness of the solum: 60 inches or more

Depth to bedrock: More than 60 inches

Content of clay in the control section: Ranges from 35 to 50 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 25 percent

Soil Survey of Clinton County, Pennsylvania

Size of rock fragments: Dominantly angular gravel

Kind of rock fragments: Limestone and chert

Reaction: In unlimed areas, extremely acid to slightly acid throughout

Ap horizon:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 or 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 25 percent

Bw horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—4 to 6

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

Content of rock fragments—0 to 25 percent

Bt horizon:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—4 to 8

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

Content of rock fragments—0 to 40 percent

2Bt horizon:

Hue—10YR to 5YR

Value—4 or 5

Chroma—4 to 8

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

Content of rock fragments—0 to 40 percent

Ungers Series

Depth class: Deep

Drainage class: Well drained

Permeability: Moderate

Landform: Mountainside

Frost-free period: 130 to 165 days

Elevation: 900 to 2,200 feet

Associated soils: Meckesville, Hustontown, Hazleton, and Laidig

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

An area of Ungers loam, 8 to 25 percent slopes, extremely stony, on a 9-percent slope; Lamar Township; Old Mackeyville Road, State Forest land south of I-80; lat. 41 degrees 02 minutes 34 seconds N. and long. 77 degrees 25 minutes 55 seconds W.

A—0 to 3 inches; very dark brown (7.5YR 2/2) loam; weak fine and medium granular structure; very friable; 10 percent subangular sandstone and shale channers; extremely acid; abrupt wavy boundary.

E—3 to 6 inches; brown (7.5YR 5/2) channery loam; weak medium subangular blocky structure; very friable; 15 percent subangular sandstone and shale channers; extremely acid; abrupt wavy boundary.

Soil Survey of Clinton County, Pennsylvania

- Bt1—6 to 17 inches; reddish brown (5YR 5/4) channery clay loam; moderate medium subangular blocky structure; friable; few faint brown (7.5YR 5/4) clay films on faces of peds; 25 percent subangular sandstone and shale channers; very strongly acid; clear wavy boundary.
- Bt2—17 to 26 inches; reddish brown (5YR 4/4) channery clay loam; moderate medium subangular blocky structure; firm; few faint reddish brown (5YR 4/4) clay films on faces of peds; 25 percent subangular sandstone and shale channers; very strongly acid; gradual wavy boundary.
- Bt3—26 to 33 inches; reddish brown (5YR 5/4) channery clay loam; moderate medium subangular blocky structure; firm; few faint reddish brown (5YR 4/4) clay films on faces of peds; 25 percent subangular sandstone and shale channers; very strongly acid; gradual wavy boundary.
- BC—33 to 48 inches; reddish brown (5YR 5/4) very channery clay loam; moderate medium subangular blocky structure; firm; few faint reddish brown (5YR 5/4) clay films on faces of peds; 35 percent subangular sandstone and shale channers; very strongly acid; abrupt smooth boundary.
- R—48 inches; reddish brown (5YR 4/3) shale bedrock.

Range in Characteristics

Thickness of the solum: 40 to 55 inches

Depth to bedrock: 40 to 60 inches

Content of clay in the control section: 20 to 35 percent

Content of rock fragments in the control section: 10 to 40 percent

Size of rock fragments: Dominantly subangular channers

Kind of rock fragments: Sandstone and shale

Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:

Hue—10YR or 7.5YR

Value—2 to 4

Chroma—2 to 4

Texture of the fine-earth fraction—loam

Content of rock fragments—5 to 30 percent

E horizon:

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—2 or 3

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

Content of rock fragments—5 to 30 percent

Bt and BC horizons:

Hue—5YR

Value—3 to 5

Chroma—3 or 4

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

Content of rock fragments—5 to 40 percent

C horizon (if it occurs):

Hue—5YR

Value—3 to 5

Chroma—3 or 4

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

Content of rock fragments—40 to 60 percent

Watson Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Glacial till on valley side

Elevation: 600 to 900 feet

Frost-free period: 140 to 165 days

Associated soils: Allenwood, Hartleton, Berks, and Weikert

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Fragiudults

Typical Pedon

An area of Watson silt loam, 0 to 5 percent slopes, on a 4-percent slope; Pine Creek Township; 0.25 mile northeast of Woolrich, in a hayfield behind houses; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 11 minutes 42 seconds N. and long. 77 degrees 22 minutes 18 seconds W.

Ap—0 to 9 inches; brown (7.5YR 4/2) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; 10 percent rounded sandstone gravel; moderately acid; abrupt smooth boundary.

Bt1—9 to 14 inches; strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint light reddish brown (5YR 6/4) clay films on faces of peds and in pores; 10 percent rounded sandstone gravel; moderately acid; clear wavy boundary.

Bt2—14 to 24 inches; yellowish red (5YR 5/6) and reddish yellow (5YR 6/6) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; many faint reddish yellow (5YR 6/6) clay films on faces of peds and in pores; 10 percent rounded sandstone gravel; moderately acid; gradual wavy boundary.

Btx—24 to 65 inches; reddish brown (5YR 5/4) cobbly silt loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; firm, slightly sticky and slightly plastic; many distinct reddish gray (5YR 5/2) clay films on faces of peds; common fine and medium irregular black (5YR 2/1) iron and manganese concretions; many coarse distinct reddish gray (5YR 5/2) irregular iron depletions between peds; 15 percent rounded sandstone cobbles and 5 percent subrounded sandstone gravel; strongly acid.

Range in Characteristics

Thickness of the solum: 50 inches or more

Depth to bedrock: More than 60 inches

Depth to the fragipan: 18 to 32 inches

Depth to redox depletions: 16 to 30 inches

Content of clay in the control section: 20 to 35 percent

Content of rock fragments in the control section: 5 to 25 percent

Size of rock fragments: Dominantly rounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, very strongly acid or strongly acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Soil Survey of Clinton County, Pennsylvania

Texture of the fine-earth fraction—silt loam
Content of rock fragments—5 to 15 percent

Bt horizon:

Hue—10YR to 5YR
Value—5 or 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—10 to 25 percent

Btx horizon:

Hue—7.5YR to 2.5YR
Value—4 to 6
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam
Content of rock fragments—10 to 50 percent

Weikert Series

Depth class: Shallow

Drainage class: Well drained

Permeability: Moderately rapid

Landform: Ridge in valley

Elevation: 600 to 1,100 feet

Frost-free period: 140 to 165 days

Associated soils: Berks, Hartleton, Brinkerton, Comly, and Pennval

Taxonomic class: Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts

Typical Pedon

Weikert very channery silt loam, in an area of Berks-Weikert complex, 15 to 25 percent slopes, on a 15-percent slope; Beech Creek Township; 0.6 mile northeast of Beech Creek; USGS Beech Creek topographic quadrangle; lat. 41 degrees 05 minutes 13 seconds N. and long. 77 degrees 34 minutes 52 seconds W.

Ap—0 to 6 inches; dark brown (10YR 3/3) very channery silt loam; weak fine and medium granular structure; friable, nonsticky and nonplastic; very fine and fine roots throughout; 40 percent angular shale channers; neutral; abrupt smooth boundary.

Bw—6 to 15 inches; yellowish brown (10YR 5/4) very channery silt loam; weak medium and coarse subangular blocky structure; friable, nonsticky and nonplastic; 50 percent angular shale channers; moderately acid; abrupt wavy boundary.

R—15 inches; light olive brown (2.5Y 5/3) shale bedrock.

Range in Characteristics

Thickness of the solum: 8 to 20 inches

Depth to bedrock: 10 to 20 inches

Content of clay in the control section: 10 to 25 percent

Content of rock fragments in the control section: 35 to 60 percent but averages more than 35 percent

Size of rock fragments: Dominantly angular channers

Kind of rock fragments: Shale, siltstone, and sandstone

Reaction: In unlimed areas, moderately acid to extremely acid

Soil Survey of Clinton County, Pennsylvania

Ap horizon:

Hue—10YR or 7.5YR
Value—3 to 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—35 to 50 percent

Bw horizon:

Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—35 to 60 percent

C horizon (if it occurs):

Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—60 to 85 percent

Wharton Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow or moderately slow

Landform: Ridge on plateau

Elevation: 1,600 to 2,350 feet

Frost-free period: 110 to 140 days

Associated soils: Tilsit, Cookport, Clymer, and Hazleton

Taxonomic class: Fine-loamy, mixed, active, mesic Aquic Hapludults

Typical Pedon

An area of Wharton silt loam, 3 to 8 percent slopes, on a 3-percent slope; Chapman Township; 700 feet west on McLure Ridge Trail from Route 44, about 300 feet north of a trail in a clear-cut area, 100 feet north of the wood line; USGS Slate Run topographic quadrangle; lat. 41 degrees 25 minutes 02 seconds N. and long. 77 degrees 34 minutes 29 seconds W.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; friable, slightly sticky and nonplastic; many fine and medium roots throughout; 2 percent subrounded sandstone channers; very strongly acid; abrupt smooth boundary.

BA—2 to 4 inches; brown (7.5YR 5/2) silt loam; moderate medium subangular blocky structure; friable, slightly sticky and nonplastic; common fine roots throughout; 2 percent angular shale channers; very strongly acid; clear smooth boundary.

Bt1—4 to 14 inches; brown (7.5YR 5/4) silt loam; strong medium subangular blocky structure; firm, moderately sticky and slightly plastic; common very fine and fine roots throughout; few distinct dark brown (7.5YR 4/4) clay films on faces of peds; 5 percent angular shale channers; strongly acid; clear wavy boundary.

Bt2—14 to 20 inches; silt loam, 75 percent strong brown (7.5YR 5/6) and 25 percent light brownish gray (10YR 6/2); strong medium and coarse angular blocky structure; firm, moderately sticky and moderately plastic; common very fine and fine roots throughout; few distinct reddish brown (5YR 4/4) clay films throughout;

Soil Survey of Clinton County, Pennsylvania

- few fine distinct brown (10YR 5/3) platelike iron depletions throughout and few fine faint reddish yellow (7.5YR 5/8) platelike masses of iron accumulation; 5 percent angular shale channers; strongly acid; clear wavy boundary.
- Bt3—20 to 45 inches; channery silt loam, 75 percent strong brown (7.5YR 5/6), 10 percent light brownish gray (10YR 6/2), and 15 percent strong brown (7.5YR 5/8); strong medium and coarse angular blocky structure; firm, moderately sticky and moderately plastic; common very fine and fine roots throughout; few distinct reddish brown (5YR 4/4) clay films throughout; common medium distinct light brownish gray (10YR 6/2) platelike iron depletions throughout and common medium prominent reddish yellow (7.5YR 5/8) platelike masses of iron accumulation throughout; 15 percent angular shale channers; very strongly acid; clear wavy boundary.
- BC—45 to 65 inches; very channery silt loam, 30 percent strong brown (7.5YR 5/6), 30 percent light brownish gray (10YR 6/2), and 40 percent strong brown (7.5YR 5/8); weak medium subangular blocky structure; very firm, slightly sticky and nonplastic; 35 percent angular shale channers; very strongly acid.

Range in Characteristics

- Thickness of the solum:* 30 to 60 inches
Depth to bedrock: More than 60 inches
Depth to redox depletions: 15 to 30 inches
Content of clay in the control section: 15 to 30 percent
Content of rock fragments in the control section: 0 to 20 percent
Size of rock fragments: Dominantly angular channers
Kind of rock fragments: Shale, siltstone, and fine grained sandstone
Reaction: Strongly acid to extremely acid throughout

A horizon:

- Hue—10YR or 7.5YR or is neutral
Value—2 or 3
Chroma—0 to 3
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 20 percent

BA and Bt horizons:

- Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam
Content of rock fragments—5 to 20 percent

BC and C horizons (if they occur):

- Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—20 to 50 percent

Wheeling Series

- Depth class:* Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part of the profile ranging to rapid in the lower part
Landform: Terrace in valley
Elevation: 550 to 800 feet

Soil Survey of Clinton County, Pennsylvania

Frost-free period: 140 to 165 days

Associated soils: Watson, Wyoming, Linden, and Philo soils

Taxonomic class: Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

An area of Wheeling silt loam, 0 to 3 percent slopes, on a 3-percent slope; Bald Eagle Township; 1,200 feet northwest of Route 150 in Mill Hall, along the golf course road, 100 feet north of the road along the fairway; USGS Mill Hall topographic quadrangle; lat. 41 degrees 06 minutes 55 seconds N. and long. 77 degrees 29 minutes 40 seconds W.

Ap—0 to 9 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry;

weak medium granular structure; very friable, nonsticky and nonplastic;

2 percent angular sandstone gravel; moderately acid; abrupt smooth boundary.

Bw—9 to 18 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium

subangular blocky structure; friable, nonsticky and nonplastic; 2 percent angular

sandstone gravel; moderately acid; clear smooth boundary.

Bt1—18 to 24 inches; yellowish brown (10YR 5/4) loam; weak medium subangular

blocky structure; friable, nonsticky and nonplastic; few faint clay films on faces of

pedes; 2 percent angular sandstone gravel; moderately acid; clear smooth

boundary.

Bt2—24 to 34 inches; strong brown (7.5YR 5/6) silt loam; weak coarse subangular

blocky structure; friable, nonsticky and nonplastic; few faint clay films on faces of

pedes; 2 percent angular sandstone gravel; moderately acid; clear smooth

boundary.

Bt3—34 to 47 inches; strong brown (7.5YR 5/6) silty clay loam; weak coarse

subangular blocky structure; friable, nonsticky and nonplastic; few distinct clay

films on faces of pedes; 2 percent angular sandstone gravel; moderately acid; clear

smooth boundary.

2BC—47 to 55 inches; strong brown (7.5YR 5/6) gravelly sandy loam; weak very

coarse subangular blocky structure; friable, nonsticky and nonplastic; 15 percent

subrounded sandstone gravel; moderately acid; gradual smooth boundary.

2C—55 to 65 inches; strong brown (10YR 5/6) gravelly fine sandy loam; massive;

very friable, nonsticky and nonplastic; 15 percent rounded sandstone gravel;

moderately acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 18 to 30 percent

Content of rock fragments in the control section: 0 to 35 percent

Size of rock fragments: Dominantly angular gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, strongly acid or moderately acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 10 percent

Bw and Bt horizons:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Soil Survey of Clinton County, Pennsylvania

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

2BC horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—sandy loam or very fine sandy loam
Content of rock fragments—15 to 35 percent

2C horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture of the fine-earth fraction—fine sandy loam, loamy sand, or sand

Wyoming Series

Depth class: Very deep

Drainage class: Somewhat excessively drained

Permeability: Rapid

Landform: Alluvial fan in river valley

Elevation: 550 to 800 feet

Frost-free period: 140 to 165 days

Associated soils: Buchanan, Creamer, Melvin, and Barbour

Taxonomic class: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

An area of Wyoming very gravelly loam, 0 to 3 percent slopes, on a 2-percent slope; Pine Creek Township; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 09 minutes 13 seconds N. and long. 77 degrees 21 minutes 53 seconds W.

Ap—0 to 7 inches; dark brown (10YR 3/3) very gravelly loam; weak fine and medium granular structure; very friable, nonsticky and nonplastic; very fine to medium roots throughout; 25 percent rounded sandstone gravel and 10 percent rounded sandstone cobbles; strongly acid; abrupt smooth boundary.

Bw—7 to 24 inches; strong brown (7.5YR 5/4) very gravelly sandy loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; very fine to medium roots throughout; 35 percent rounded sandstone gravel and 15 percent rounded sandstone cobbles; strongly acid; clear smooth boundary.

C1—24 to 44 inches; strong brown (7.5YR 5/4) very gravelly sandy loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; very fine to medium roots throughout; 35 percent rounded sandstone gravel and 15 percent rounded sandstone cobbles; strongly acid; clear smooth boundary.

C2—44 to 65 inches; yellowish brown (10YR 5/4) extremely gravelly loamy sand; single grain; loose, nonsticky and nonplastic; 50 percent rounded sandstone gravel and 20 percent rounded sandstone cobbles; strongly acid.

Range in Characteristics

Thickness of the solum: 18 to 35 inches

Depth to bedrock: More than 60 inches

Content of clay in the control section: 10 to 20 percent

Content of rock fragments in the control section: Ranges from 20 to 50 percent but averages more than 35 percent

Size of rock fragments: Dominantly rounded gravel and cobbles

Soil Survey of Clinton County, Pennsylvania

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, moderately acid to extremely acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 or 3

Texture of the fine-earth fraction—loam

Content of rock fragments—35 to 50 percent

B horizon:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 or 4

Texture of the fine-earth fraction—sandy loam

Content of rock fragments—20 to 60 percent

C horizon:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—2 to 4

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

Content of rock fragments—35 to 70 percent

Zoar Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Slow

Landform: Terrace in river valley

Elevation: 550 to 800 feet

Frost-free period: 140 to 165 days

Associated soils: Wheeling, Purdy, Comly, and Chenango

Taxonomic class: Fine, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

An area of Zoar silt loam, 0 to 3 percent slopes, on a 2-percent slope; Pine Creek Township; about 0.5 mile west of Pine Creek, near the intersection of County Route 18015 and Township Route 444; USGS Jersey Shore topographic quadrangle; lat. 41 degrees 12 minutes 17 seconds N. and long. 77 degrees 19 minutes 05 seconds W.

Ap—0 to 12 inches; silt loam, 60 percent brown (7.5YR 4/2) and 40 percent brown (10YR 4/3); moderate fine and medium granular structure; very friable, nonsticky and nonplastic; many very fine to medium roots throughout; 5 percent subrounded sandstone and shale gravel and 5 percent rounded sandstone and shale gravel; slightly acid; abrupt smooth boundary.

Bt1—12 to 16 inches; silty clay loam, 60 percent brownish yellow (10YR 6/6), 30 percent light yellowish brown (10YR 6/4), and 10 percent light brown (7.5YR 6/4); moderate medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine to medium roots between peds; common faint light yellowish brown (10YR 6/4) clay films in root channels and pores; 5 percent subrounded sandstone and shale gravel and 10 percent rounded sandstone and shale gravel; moderately acid; clear wavy boundary.

Bt2—16 to 27 inches; silty clay loam, 70 percent light yellowish brown (10YR 6/4), 20 percent light brown (7.5YR 6/4), and 10 percent pale brown (10YR 6/3); strong

Soil Survey of Clinton County, Pennsylvania

medium and coarse subangular blocky structure; very friable, nonsticky and nonplastic; many distinct pale brown (10YR 6/3) clay films in root channels and pores; strongly acid; gradual wavy boundary.

- Bt3**—27 to 42 inches; silty clay loam, 60 percent light brown (7.5YR 6/4) and 40 percent reddish yellow (7.5YR 6/6); moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; many distinct pale brown (10YR 6/3) clay films on faces of peds and in pores; many fine and medium distinct pinkish gray (7.5YR 7/2) irregular iron depletions and many fine and medium distinct pinkish gray (7.5YR 6/2) irregular masses of iron accumulation; strongly acid; gradual wavy boundary.
- BC**—42 to 46 inches; silty clay loam, 60 percent brownish yellow (10YR 6/6), 30 percent reddish yellow (7.5YR 6/6), and 10 percent light yellowish brown (10YR 6/4); moderate fine and medium subangular blocky structure; very friable, nonsticky and nonplastic; few fine and medium irregular dark brown (7.5YR 3/2) and strong brown (7.5YR 5/6) masses of iron and manganese accumulation and fine and medium distinct pinkish gray (7.5YR 6/2) irregular iron depletions around stones; 5 percent subrounded sandstone and shale gravel; strongly acid; clear smooth boundary.
- C**—46 to 65 inches; light brownish gray (10YR 6/2) clay loam; massive; firm, moderately sticky and moderately plastic; common fine and medium distinct strong brown (7.5YR 5/8) irregular masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 50 inches

Depth to bedrock: More than 60 inches

Depth to redox depletions: 16 to 30 inches

Content of clay in the control section: Ranges from 30 to 60 percent but averages more than 35 percent

Content of rock fragments in the control section: 0 to 10 percent

Size of rock fragments: Dominantly subrounded gravel

Kind of rock fragments: Sandstone, siltstone, and shale

Reaction: In unlimed areas, strongly acid or very strongly acid

Ap horizon:

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—2 to 4

Texture of the fine-earth fraction—silt loam

Content of rock fragments—0 to 10 percent

Bt horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—4 to 8

Texture of the fine-earth fraction—silty clay loam

Content of rock fragments—0 to 10 percent

BC and C horizons:

Hue—10YR or 7.5YR

Value—4 to 7

Chroma—1 to 6

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

Content of rock fragments—0 to 15 percent

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Glossary

- ABC soil.** A soil having an A, a B, and a C horizon.
- Ablation till.** Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.
- 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.
- Alkali (sodic) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.
- Alluvial cone.** The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.
- Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.
- Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.
- Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.
- Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
- Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.
- Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.
- Arroyo.** The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.
- Aspect.** The direction in which a slope faces.
- Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.
- Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low 0 to 3
Low 3 to 6

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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.
- Badland.** Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.
- Bajada.** A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.
- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Basal till.** Compact glacial till deposited beneath the ice.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)
- Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- 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.
- Cirque.** A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Congeliturbate.** Soil material disturbed by frost action.
- Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- 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.
- Coppice dune.** A small dune of fine grained soil material stabilized around shrubs or small trees.
- Coprogenous earth (sedimentary peat).** Fecal material deposited in water by aquatic organisms.
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Cuesta.** A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.
- Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.
- Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.
- Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.
- Desert pavement.** On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.
- 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.
- Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.
- Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.
- Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

- Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.
- Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.
- Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) emplaced on the Earth's surface.
- 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 terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine earth.** That portion of the soil consisting of particles less than 2 millimeters in diameter. Particles and rock fragments 2 millimeters in diameter or larger are not included.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.
- Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
- Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.
- Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.
- Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.
- Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.
- Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- 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.

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.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

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 natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasesers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasesers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

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.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

- Mesa.** A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.
- Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.
- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common, and many*; size—*fine, medium, and coarse*; and contrast—*faint, distinct, and prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).
- Mountain.** A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.
- Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)
- Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)
- Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.
- Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.
- Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

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Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

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.)

Pebble. A rounded or angular fragment of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. A collection of pebbles is referred to as gravel.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

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

- Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
- pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)
- Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
- Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.
- Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.
- Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.
- Playa.** The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.
- Plinthite.** The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.
- Plowpan.** A compacted layer formed in the soil directly below the plowed layer.
- Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
- Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.
- 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 in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

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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.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.
- Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.
- Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.
- Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.
- Regolith.** The unconsolidated mantle of weathered rock and soil material on the Earth's surface; the loose earth material above the solid rock.
- Relief.** The elevations or inequalities of a land surface, considered collectively.
- Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.
- Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.
- Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
- Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
- Root zone.** The part of the soil that can be penetrated by plant roots.
- Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
- Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
- Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.
- Sandstone.** Sedimentary rock containing dominantly sand-sized particles.
- Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

- Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.
- Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.
- Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
- Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
- Shale.** Sedimentary rock formed by the hardening of a clay deposit.
- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.
- Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.
- Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.
- Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.
- Sinkhole.** A depression in the landscape where limestone has been dissolved.
- Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.
- Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

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Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 3 percent
Gently sloping	3 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 35 percent
Very steep	35 to 70 percent

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}^{++}$. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the Earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons.

Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

- Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.
- Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.
- Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.
- 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.
- 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.** Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.
- Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.
- Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
- Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and

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sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

- Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.
- Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- 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.
- Tuff.** A compacted deposit that is 50 percent or more volcanic ash and dust.
- Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
- Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
- Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Varve.** A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.
- Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.
- Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the Earth’s surface by atmospheric agents. These changes result in disintegration and decomposition of the material.
- Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
- Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.
- Windthrow.** The uprooting and tipping over of trees by the wind.

Tables

Soil Survey of Clinton County, Pennsylvania

Table 1.--Temperature and Precipitation
(Recorded in the period 1971-2000 at Lock Haven, Pennsylvania.)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snow-fall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	34.1	17.1	25.6	60	-11	11	2.56	1.22	3.66	6	8.5
February-	39.0	19.6	29.3	64	-3	13	2.23	1.27	3.06	5	6.3
March----	48.4	25.9	37.2	79	3	81	3.18	1.95	4.32	7	6.7
April----	61.7	35.9	48.8	86	20	277	3.36	1.80	4.71	7	.4
May-----	72.9	45.7	59.3	92	29	598	3.58	2.26	4.88	7	.0
June-----	80.6	54.5	67.6	94	38	815	4.62	2.64	6.56	8	.0
July-----	84.4	59.6	72.0	98	46	986	4.15	2.46	5.72	7	.0
August---	82.2	57.5	69.9	95	42	926	3.98	2.42	5.35	7	.0
September	74.8	51.0	62.9	93	34	690	3.92	2.22	5.49	7	.0
October--	63.3	38.7	51.0	82	24	345	3.00	1.39	4.36	5	.0
November-	50.3	30.8	40.6	74	15	102	3.39	1.97	4.74	6	.9
December-	39.1	22.9	31.0	65	-1	23	2.65	1.44	3.73	6	4.2
Yearly:											
Average-	60.9	38.3	49.6	---	---	---	---	---	---	---	---
Extreme-	---	---	---	103	-14	---	---	---	---	---	---
Total---	---	---	---	---	---	4,867	40.62	33.55	44.98	78	27.1

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Soil Survey of Clinton County, Pennsylvania

Table 2.--Freeze Dates in Spring and Fall
(Recorded in the period 1971-2000 at Lock Haven, Pennsylvania.)

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. 13	Apr. 30	May 17
2 years in 10 later than--	Apr. 9	Apr. 25	May 13
5 years in 10 later than--	Apr. 1	Apr. 16	May 3
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 24	Oct. 15	Sept. 29
2 years in 10 earlier than--	Oct. 28	Oct. 19	Oct. 2
5 years in 10 earlier than--	Nov. 4	Oct. 26	Oct. 9

Table 3.--Growing Season
(Recorded in the period 1971-2000 at Lock Haven, Pennsylvania.)

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	200	168	140
8 years in 10	206	176	146
5 years in 10	217	192	158
2 years in 10	228	207	170
1 year in 10	233	215	176

Soil Survey of Clinton County, Pennsylvania

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

Map symbol	Soil name	Acres	Percent
AeB	Aeric Epiaquents, gently sloping-----	631	0.1
AfD	Allegheny silt loam, 8 to 25 percent slopes-----	292	*
AgB	Allenwood gravelly silt loam, 3 to 8 percent slopes-----	876	0.2
AgC	Allenwood gravelly silt loam, 8 to 15 percent slopes-----	212	*
AgD	Allenwood gravelly silt loam, 15 to 25 percent slopes-----	13	*
At	Atkins silt loam-----	3,773	0.7
Ba	Barbour fine sandy loam-----	1,810	0.3
Bb	Barbour-Craigsville complex-----	3,895	0.7
Bc	Basher silt loam-----	1,054	0.2
BeB	Berks channery silt loam, 3 to 8 percent slopes-----	934	0.2
BeC	Berks channery silt loam, 8 to 15 percent slopes-----	4,122	0.7
BeD	Berks-Weikert complex, 15 to 25 percent slopes-----	5,736	1.0
BeE	Berks-Weikert complex, 25 to 60 percent slopes-----	9,916	1.7
BgA	Brinkerton silt loam, 0 to 3 percent slopes-----	311	*
BhB	Buchanan gravelly loam, 3 to 8 percent slopes-----	392	*
BhD	Buchanan gravelly loam, 8 to 25 percent slopes-----	1,169	0.2
BmB	Buchanan gravelly loam, 0 to 8 percent slopes, extremely stony-----	2,782	0.5
BmC	Buchanan gravelly loam, 8 to 25 percent slopes, extremely stony-----	9,637	1.7
BuB	Buchanan-Andover gravelly loams, 3 to 8 percent slopes-----	5,528	1.0
BuC	Buchanan-Andover gravelly loams, 8 to 15 percent slopes-----	5,777	1.0
BxB	Buchanan-Andover gravelly loams, 0 to 8 percent slopes, extremely stony--	1,254	0.2
BxC	Buchanan-Andover gravelly loams, 8 to 25 percent slopes, extremely stony--	1,021	0.2
CaB	Calvin channery silt loam, 3 to 8 percent slopes-----	808	0.1
CaC	Calvin channery silt loam, 8 to 15 percent slopes-----	331	*
CbC	Cedarcreek extremely channery loam, strongly sloping-----	2,371	0.4
CbD	Cedarcreek extremely channery loam, moderately steep-----	2,544	0.4
CbE	Cedarcreek extremely channery loam, steep-----	1,896	0.3
CcA	Chenango gravelly loam, 0 to 3 percent slopes-----	34	*
CcB	Chenango gravelly loam, 3 to 8 percent slopes-----	288	*
CdB	Clymer loam, 3 to 8 percent slopes-----	2,257	0.4
CdD	Clymer loam, 8 to 25 percent slopes-----	79	*
CeA	Clymer channery loam, 0 to 3 percent slopes-----	355	*
CeB	Clymer channery loam, 3 to 8 percent slopes-----	2,667	0.5
CeC	Clymer channery loam, 8 to 15 percent slopes-----	381	*
CfB	Clymer channery loam, 0 to 8 percent slopes, extremely stony-----	28,769	5.0
CgB	Clymer-Cookport channery loams, 0 to 8 percent slopes, extremely stony--	19,119	3.3
ChB	Clymer-Hazleton sandy loams, 0 to 8 percent slopes, extremely stony-----	5,538	1.0
CmA	Comly silt loam, 0 to 3 percent slopes-----	146	*
CmB	Comly silt loam, 3 to 8 percent slopes-----	936	0.2
CmC	Comly silt loam, 8 to 15 percent slopes-----	485	*
CnB	Cookport silt loam, 3 to 8 percent slopes-----	1,188	0.2
CoA	Cookport loam, 0 to 3 percent slopes-----	99	*
CoB	Cookport loam, 3 to 8 percent slopes-----	337	*
CpB	Cookport channery loam, 0 to 8 percent slopes, extremely stony-----	27,904	4.9
CpD	Cookport channery loam, 8 to 25 percent slopes, extremely stony-----	34,576	6.0
Cr	Craigsville gravelly loam-----	3,740	0.7
DAM	Dam-----	30	*
Fr	Freetown mucky peat-----	304	*
GpB	Gilpin silt loam, 3 to 8 percent slopes-----	1,380	0.2
GpC	Gilpin silt loam, 8 to 15 percent slopes-----	325	*
GwD	Gilpin-Wharton silt loams, 15 to 25 percent slopes-----	649	0.1
HeA	Hagerstown silt loam, 0 to 3 percent slopes-----	1,347	0.2
HeB	Hagerstown silt loam, 3 to 8 percent slopes-----	9,446	1.6
HeC	Hagerstown silt loam, 8 to 15 percent slopes-----	2,582	0.4
HfB	Hagerstown silty clay loam, 3 to 8 percent slopes-----	247	*
HgC	Hagerstown-Opequon silty clay loams, 8 to 15 percent slopes, rocky-----	1,380	0.2
HhA	Hartleton channery silt loam, 0 to 3 percent slopes-----	88	*
HhB	Hartleton channery silt loam, 3 to 8 percent slopes-----	344	*
HhC	Hartleton channery silt loam, 8 to 15 percent slopes-----	243	*
HjC	Hazleton channery sandy loam, 8 to 25 percent slopes, extremely stony---	8,130	1.4
HkE	Hazleton channery sandy loam, 25 to 80 percent slopes, rubbly-----	54,963	9.6
HlB	Hazleton-Clymer channery loams, 3 to 8 percent slopes-----	2,127	0.4
HlC	Hazleton-Clymer channery loams, 8 to 15 percent slopes-----	1,468	0.3
HlD	Hazleton-Clymer channery loams, 15 to 25 percent slopes-----	309	*

Soil Survey of Clinton County, Pennsylvania

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

Map symbol	Soil name	Acres	Percent
HmB	Hazleton-Clymer channery loams, 0 to 8 percent slopes, extremely stony---	5,790	1.0
HmD	Hazleton-Clymer channery loams, 8 to 25 percent slopes, extremely stony--	54,904	9.5
HoF	Hazleton-Laidig complex, 25 to 50 percent slopes, extremely stony-----	108,492	18.9
HuB	Hustontown silt loam, 3 to 8 percent slopes-----	2,013	0.4
HuC	Hustontown silt loam, 8 to 15 percent slopes-----	299	*
HuD	Hustontown silt loam, 15 to 25 percent slopes-----	2,848	0.5
KcD	Klinesville channery silt loam, 15 to 25 percent slopes-----	27	*
KcE	Klinesville channery silt loam, 25 to 80 percent slopes-----	111	*
KrA	Kreamer silt loam, 0 to 3 percent slopes-----	439	*
LaB	Laidig gravelly loam, 3 to 8 percent slopes-----	135	*
LaC	Laidig gravelly loam, 8 to 15 percent slopes-----	845	0.1
LaD	Laidig gravelly loam, 15 to 25 percent slopes-----	405	*
LdB	Laidig gravelly loam, 0 to 8 percent slopes, extremely stony-----	279	*
LdC	Laidig gravelly loam, 8 to 25 percent slopes, extremely stony-----	6,499	1.1
LkB	Leck Kill channery silt loam, 3 to 8 percent slopes-----	167	*
LkC	Leck Kill channery silt loam, 8 to 15 percent slopes-----	600	0.1
LkD	Leck Kill channery silt loam, 15 to 25 percent slopes-----	858	0.1
LkE	Leck Kill channery silt loam, 25 to 35 percent slopes-----	1,230	0.2
LmD	Leck Kill channery silt loam, 8 to 25 percent slopes, very stony-----	76	*
LnB	Leetonia channery sandy loam, 0 to 8 percent slopes, extremely stony---	4,600	0.8
LnC	Leetonia channery sandy loam, 8 to 25 percent slopes, extremely stony---	3,573	0.6
Lo	Linden silt loam, occasionally flooded-----	4,151	0.7
Lr	Linden silt loam, rarely flooded-----	2,851	0.5
MeB	Meckesville silt loam, 3 to 8 percent slopes-----	654	0.1
MeC	Meckesville silt loam, 8 to 15 percent slopes-----	1,458	0.3
MeD	Meckesville silt loam, 15 to 25 percent slopes-----	550	*
MhD	Meckesville channery loam, 8 to 25 percent slopes, very stony-----	1,730	0.3
Mn	Melvin and Newark silt loams-----	2,270	0.4
MoB	Morrison channery sandy loam, 3 to 8 percent slopes-----	224	*
MoC	Morrison channery sandy loam, 8 to 15 percent slopes-----	96	*
MuA	Murrill silt loam, 0 to 3 percent slopes-----	147	*
MuB	Murrill silt loam, 3 to 8 percent slopes-----	309	*
MuC	Murrill silt loam, 8 to 15 percent slopes-----	41	*
MuD	Murrill silt loam, 15 to 25 percent slopes-----	198	*
NoA	Nolo silt loam, 0 to 3 percent slopes-----	4,522	0.8
NsA	Nolo silt loam, 0 to 3 percent slopes, extremely stony-----	30	*
OeE	Opequon silty clay loam, 25 to 60 percent slopes, very rocky-----	318	*
OhD	Opequon-Hagerstown silty clay loams, 15 to 25 percent slopes-----	1,007	0.2
OsD	Opequon-Hagerstown silty clay loams, 15 to 25 percent slopes, rocky-----	321	*
PaE	Pennval silt loam, 15 to 35 percent slopes, very stony-----	800	0.1
Pb	Philo silt loam-----	1,684	0.3
Pc	Philo-Linden silt loams-----	280	*
Ps	Pits-----	80	*
Pt	Potomac gravelly sandy loam-----	126	*
Pu	Purdy silt loam, 0 to 3 percent slopes-----	344	*
Qu	Quarry, limestone-----	99	*
RaF	Rock outcrop-Rubble land complex, 50 to 90 percent slopes-----	4,731	0.8
Rb	Rubble land-----	8,450	1.5
TaA	Tilsit silt loam, 0 to 3 percent slopes-----	1,544	0.3
TaB	Tilsit silt loam, 3 to 8 percent slopes-----	1,738	0.3
TaC	Tilsit silt loam, 8 to 15 percent slopes-----	270	*
TmA	Timberville silt loam, 0 to 3 percent slopes-----	351	*
TmB	Timberville silt loam, 3 to 8 percent slopes-----	546	*
UnB	Ungers loam, 3 to 8 percent slopes-----	2,471	0.4
UnC	Ungers loam, 8 to 15 percent slopes-----	352	*
UoB	Ungers loam, 0 to 8 percent slopes, extremely stony-----	136	*
UoC	Ungers loam, 8 to 25 percent slopes, extremely stony-----	1,755	0.3
UoE	Ungers loam, 25 to 50 percent slopes, extremely stony-----	3,503	0.6
UpF	Ungers-Meckesville complex, 25 to 50 percent slopes, extremely stony----	22,002	3.8
UrC	Urban land-Berks complex, 3 to 15 percent slopes-----	132	*
UsB	Urban land-Comly complex, 0 to 8 percent slopes-----	222	*
UsC	Urban land-Comly complex, 8 to 15 percent slopes-----	157	*
Ut	Urban land-Linden complex-----	1,337	0.2
W	Water-----	5,770	1.0

Soil Survey of Clinton County, Pennsylvania

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

Map symbol	Soil name	Acres	Percent
WaA	Watson silt loam, 0 to 5 percent slopes-----	717	0.1
WbB	Wharton silt loam, 3 to 8 percent slopes-----	2,369	0.4
WbC	Wharton silt loam, 8 to 15 percent slopes-----	394	*
WeB	Wharton silt loam, 0 to 8 percent slopes, very stony-----	4,330	0.8
WgB	Wharton-Cookport complex, 0 to 8 percent slopes, very stony-----	6,582	1.1
WhA	Wheeling silt loam, 0 to 3 percent slopes-----	124	*
WyA	Wyoming very gravelly loam, 0 to 3 percent slopes-----	2,275	0.4
WyB	Wyoming very gravelly loam, 3 to 8 percent slopes-----	857	0.1
ZoA	Zoar silt loam, 0 to 3 percent slopes-----	183	*
	Total-----	575,123	100.0

* Less than 0.1 percent.

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

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Brome-grass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
AeB: Aeric Epiaquents--	6s	---	---	---	---	---	---	---	---
AfD: Allegheny-----	4e	120	22	65	35	40	4.50	3.50	3.00
AgB: Allenwood-----	2e	150	27	80	45	60	5.50	4.00	3.50
AgC: Allenwood-----	3e	140	25	75	40	55	5.00	3.50	3.50
AgD: Allenwood-----	4e	125	23	65	35	50	4.50	3.50	3.00
At: Atkins-----	3w	100	20	60	30	35	---	---	3.00
Ba: Barbour-----	1	165	30	80	45	60	4.50	3.50	3.50
Bb: Barbour-----	1	165	30	80	45	60	4.50	3.50	3.50
Craigsville-----	2s	80	16	45	25	45	2.00	2.00	1.50
Bc: Basher-----	2w	165	30	80	40	55	4.50	3.50	3.50
BeB: Berks-----	2e	110	21	60	30	50	3.50	3.00	3.00
BeC: Berks-----	3e	100	20	55	25	45	3.00	2.50	2.50
BeD: Berks-----	4e	90	18	50	20	40	3.00	2.50	2.50
Weikert-----	6e	80	16	---	---	---	---	---	---
BeE: Berks-----	6e	---	---	---	---	---	---	---	---
Weikert-----	7e	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
BgA: Brinkerton-----	4w	100	20	60	30	40	---	---	2.50
BhB: Buchanan-----	2e	125	23	65	30	50	3.50	3.00	3.00
BhD: Buchanan-----	4e	100	20	55	20	40	3.00	2.50	2.50
BmB: Buchanan-----	7s	---	---	---	---	---	---	---	---
BmC: Buchanan-----	7s	---	---	---	---	---	---	---	---
BuB: Buchanan-----	2e	125	23	65	30	50	3.50	3.00	3.00
Andover-----	4w	100	20	60	30	35	---	---	2.50
BuC: Buchanan-----	3e	110	21	60	25	45	3.50	3.00	3.00
Andover-----	4w	90	18	55	30	35	---	---	2.50
BxB: Buchanan-----	7s	---	---	---	---	---	---	---	---
Andover-----	7s	---	---	---	---	---	---	---	---
BxC: Buchanan-----	7s	---	---	---	---	---	---	---	---
Andover-----	7s	---	---	---	---	---	---	---	---
CaB: Calvin-----	3s	100	20	60	30	50	3.00	2.50	2.00
CaC: Calvin-----	4s	90	18	55	25	45	3.00	2.50	2.00
CbC: Cedarcreek-----	7s	---	---	---	---	---	---	---	---
CbD: Cedarcreek-----	7s	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalpa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
CbE: Cedarcreek-----	7s	---	---	---	---	---	---	---	---
CcA: Chenango-----	2s	125	23	80	40	55	4.50	3.50	3.50
CcB: Chenango-----	2s	125	23	80	35	50	4.50	3.50	3.50
CdB: Clymer-----	2e	130	24	75	40	60	4.50	3.50	3.50
CdD: Clymer-----	4e	130	24	65	30	50	4.50	3.50	3.50
CeA: Clymer-----	1	130	24	75	40	60	4.50	3.50	3.50
CeB: Clymer-----	2e	130	24	75	40	60	4.50	3.50	3.50
CeC: Clymer-----	3e	120	22	70	35	55	4.00	3.50	3.00
CfB: Clymer-----	7s	---	---	---	---	---	---	---	---
CgB: Clymer-----	7s	---	---	---	---	---	---	---	---
Cookport-----	7s	---	---	---	---	---	---	---	---
ChB: Clymer-----	7s	---	---	---	---	---	---	---	---
Hazleton-----	7s	---	---	---	---	---	---	---	---
CmA: Comly-----	2w	120	22	65	30	50	3.50	3.00	3.00
CmB: Comly-----	2e	120	22	65	30	50	3.50	3.00	3.00
CmC: Comly-----	3e	100	20	60	25	45	3.50	3.00	3.00

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
CnB: Cookport-----	2e	100	20	65	---	---	3.50	---	3.00
CoA: Cookport-----	2w	120	22	65	30	50	3.50	3.00	3.00
CoB: Cookport-----	2e	100	20	65	---	---	3.50	---	3.00
CpB: Cookport-----	7s	---	---	---	---	---	---	---	---
CpD: Cookport-----	7s	---	---	---	---	---	---	---	---
Cr: Craigs ville-----	2s	80	16	45	25	45	2.00	2.00	1.50
Fr: Freetown-----	5w	---	---	---	---	---	---	---	---
GpB: Gilpin-----	2e	120	22	65	30	50	3.50	3.00	3.00
GpC: Gilpin-----	3e	110	21	60	25	45	3.50	3.00	3.00
GwD: Gilpin-----	4e	100	20	55	20	35	3.00	2.50	2.50
Wharton-----	4e	100	20	55	20	35	3.00	2.50	2.50
HeA: Hagerstown-----	1	165	30	80	45	60	5.50	4.00	3.50
HeB: Hagerstown-----	2e	165	30	80	45	60	5.50	4.00	3.50
HeC: Hagerstown-----	3e	155	28	75	40	55	5.00	3.50	3.50
HfB: Hagerstown-----	2e	165	30	80	45	60	5.50	4.00	3.50
HgC: Hagerstown-----	3e	155	28	75	40	55	5.00	3.50	3.50

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
HgC: Opequon-----	4e	90	18	55	25	40	4.00	3.00	2.50
HhA: Hartleton-----	2s	125	23	65	30	50	3.50	3.00	3.00
HhB: Hartleton-----	2e	125	23	65	30	50	3.50	3.00	3.00
HhC: Hartleton-----	3e	110	21	60	25	45	3.00	2.50	2.50
HjC: Hazleton-----	7s	---	---	---	---	---	---	---	---
HkE: Hazleton-----	7s	---	---	---	---	---	---	---	---
HlB: Clymer-----	2e	130	24	75	40	60	4.50	3.50	3.50
Hazleton-----	2e	125	23	75	30	50	4.50	3.50	3.50
HlC: Clymer-----	3e	120	22	70	35	55	4.00	3.00	3.00
Hazleton-----	3e	115	22	70	25	45	4.50	3.50	3.50
HlD: Clymer-----	4e	115	22	60	30	50	4.00	3.00	3.00
Hazleton-----	4e	110	21	60	20	40	4.00	3.00	3.00
HmB: Hazleton-----	7s	---	---	---	---	---	---	---	---
Clymer-----	7s	---	---	---	---	---	---	---	---
HmD: Hazleton-----	7s	---	---	---	---	---	---	---	---
Clymer-----	7s	---	---	---	---	---	---	---	---
HoF: Hazleton-----	7s	---	---	---	---	---	---	---	---
Laidig-----	7s	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
HuB: Hustontown-----	2e	125	23	65	30	50	3.50	3.00	3.00
HuC: Hustontown-----	3e	120	22	60	25	45	3.50	3.00	3.00
HuD: Hustontown-----	4e	110	21	55	20	40	3.50	3.00	3.00
KcD: Klinesville-----	6e	---	---	---	---	---	2.00	2.00	1.50
KcE: Klinesville-----	7e	---	---	---	---	---	---	---	---
KrA: Kreamer-----	2w	125	23	65	30	50	3.50	3.00	3.00
LaB: Laidig-----	2e	125	23	75	40	55	4.00	3.50	3.00
LaC: Laidig-----	3e	120	22	70	35	50	4.00	3.50	3.00
LaD: Laidig-----	4e	110	21	65	30	45	3.50	3.00	2.50
LdB: Laidig-----	7s	---	---	---	---	---	---	---	---
LdC: Laidig-----	7s	---	---	---	---	---	---	---	---
LkB: Leck Kill-----	2e	125	23	75	40	60	4.50	3.50	3.00
LkC: Leck Kill-----	3e	120	22	70	35	55	4.00	3.50	3.00
LkD: Leck Kill-----	4e	110	21	65	30	50	4.00	3.50	2.50
LkE: Leck Kill-----	6e	---	---	---	---	---	---	---	---
LmD: Leck Kill-----	6s	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
LnB: Leetonia-----	7s	---	---	---	---	---	---	---	---
LnC: Leetonia-----	7s	---	---	---	---	---	---	---	---
Lo: Linden-----	1	165	30	80	45	60	4.50	3.50	3.50
Lr: Linden-----	1	165	30	80	45	60	4.50	3.50	3.50
MeB: Meckesville-----	2e	125	23	70	40	60	4.00	3.00	4.00
MeC: Meckesville-----	3e	120	22	65	35	55	4.00	3.00	4.00
MeD: Meckesville-----	4e	110	21	60	30	50	3.50	3.00	3.50
MhD: Meckesville-----	6s	---	---	---	---	---	3.50	3.00	3.50
Mn: Melvin-----	3w	100	20	60	30	---	---	---	3.50
Newark-----	2w	115	22	60	35	45	3.50	3.00	4.50
MoB: Morrison-----	2e	125	23	75	35	60	4.50	3.50	3.50
MoC: Morrison-----	3e	120	22	70	30	55	4.00	3.00	3.50
MuA: Murrill-----	1	150	27	75	45	60	4.50	3.50	3.50
MuB: Murrill-----	2e	150	27	75	45	55	4.50	3.50	3.50
MuC: Murrill-----	3e	140	25	70	40	50	4.00	3.00	3.00
MuD: Murrill-----	4e	130	24	60	35	45	4.00	3.00	3.00

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
NoA:									
Nolo-----	4w	90	18	55	25	---	---	---	2.50
NsA:									
Nolo-----	7s	---	---	---	---	---	---	---	---
OeE:									
Opequon-----	7e	---	---	---	---	---	---	---	---
OhD:									
Opequon-----	6e	---	---	---	---	---	---	2.50	2.00
Hagerstown-----	6e	---	---	---	---	---	---	3.00	3.50
OsD:									
Opequon-----	6e	---	---	---	---	---	---	3.50	2.00
Hagerstown-----	6e	---	---	---	---	---	---	3.00	3.50
PaE:									
Pennval-----	7s	---	---	---	---	---	---	---	---
Pb:									
Philo-----	2w	130	24	80	40	55	4.50	3.50	3.50
Pc:									
Philo-----	2w	130	24	80	40	55	4.50	3.50	3.50
Linden-----	1	165	30	80	45	60	4.50	3.50	3.50
Ps:									
Pits-----	---	---	---	---	---	---	---	---	---
Pt:									
Potomac-----	5s	---	---	---	---	---	2.50	---	2.00
Pu:									
Purdy-----	4w	90	18	55	25	---	---	---	2.50
Qu:									
Quarry-----	---	---	---	---	---	---	---	---	---
RaF:									
Rock outcrop-----	8s	---	---	---	---	---	---	---	---
Rubble land-----	8s	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
Rb: Rubble land-----	8s	---	---	---	---	---	---	---	---
TaA: Tilsit-----	2w	125	23	70	30	50	3.50	3.50	3.00
TaB: Tilsit-----	2e	125	23	70	30	50	3.50	3.00	3.00
TaC: Tilsit-----	3e	115	22	60	25	45	3.00	2.50	3.00
TmA: Timberville-----	1	165	30	80	45	60	4.50	3.50	4.00
TmB: Timberville-----	2e	165	30	80	45	60	4.50	3.50	4.00
UnB: Ungers-----	2e	125	23	75	35	50	4.50	3.50	3.50
UnC: Ungers-----	3e	115	22	70	30	45	4.00	3.50	3.00
UoB: Ungers-----	7s	---	---	---	---	---	---	---	---
UoC: Ungers-----	7s	---	---	---	---	---	---	---	---
UoE: Ungers-----	7s	---	---	---	---	---	---	---	---
UpF: Ungers-----	7s	---	---	---	---	---	---	---	---
Meckesville-----	7s	---	---	---	---	---	---	---	---
UrC: Urban land-----	---	---	---	---	---	---	---	---	---
Berks-----	3e	100	20	55	25	45	3.00	2.50	2.50
UsB: Urban land-----	---	---	---	---	---	---	---	---	---
Comly-----	2e	120	22	65	30	50	3.50	3.00	3.00

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

Map symbol and soil name	Land capability	Corn	Corn silage	Oats	Soybeans	Winter wheat	Alfalfa hay	Bromegrass- alfalfa hay	Grass- legume hay
		Bu	Tons	Bu	Bu	Bu	Tons	Tons	Tons
UsC:									
Urban land-----	---	---	---	---	---	---	---	---	---
Comly-----	3e	100	20	60	25	45	3.50	3.00	3.00
Ut:									
Urban land-----	---	---	---	---	---	---	---	---	---
Linden-----	1	165	30	80	45	60	4.50	3.50	3.50
WaA:									
Watson-----	2w	125	23	70	30	50	3.50	3.00	3.00
WbB:									
Wharton-----	2e	125	23	65	30	50	3.50	3.00	3.00
WbC:									
Wharton-----	3e	115	22	60	25	45	3.50	3.00	3.00
WeB:									
Wharton-----	6s	---	---	---	---	---	---	---	---
WgB:									
Wharton-----	6s	---	---	---	---	---	---	---	---
Cookport-----	6s	---	---	---	---	---	---	---	---
WhA:									
Wheeling-----	1	165	30	75	45	50	4.50	3.50	3.50
WyA:									
Wyoming-----	3s	125	23	75	30	50	4.00	3.50	3.00
WyB:									
Wyoming-----	3s	125	23	75	30	50	4.50	3.50	3.50
ZoA:									
Zoar-----	2w	125	23	65	30	45	3.50	3.00	3.00

Soil Survey of Clinton County, Pennsylvania

Table 6.--Acreage by Capability Class and Subclass

Capability class	Capability subclass	Acreage
Unclassified	---	13,259
1	---	12,880
2	e	36,290
2	w	6,900
2	s	5,514
3	e	18,525
3	w	4,681
3	s	4,271
4	e	10,366
4	w	9,121
5	w	304
5	s	126
6	e	8,272
6	s	13,349
7	e	3,899
7	s	390,888
8	s	36,478

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Table 7.--Prime Farmland and Other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland.)

Map symbol	Soil name
Prime farmland:	
AgB	Allenwood gravelly silt loam, 3 to 8 percent slopes
Ba	Barbour fine sandy loam
Bc	Basher silt loam
BhB	Buchanan gravelly loam, 3 to 8 percent slopes
CcA	Chenango gravelly loam, 0 to 3 percent slopes
CcB	Chenango gravelly loam, 3 to 8 percent slopes
CdB	Clymer loam, 3 to 8 percent slopes
CeA	Clymer channery loam, 0 to 3 percent slopes
CeB	Clymer channery loam, 3 to 8 percent slopes
CmA	Comly silt loam, 0 to 3 percent slopes
CmB	Comly silt loam, 3 to 8 percent slopes
CnB	Cookport silt loam, 3 to 8 percent slopes
CoA	Cookport loam, 0 to 3 percent slopes
CoB	Cookport loam, 3 to 8 percent slopes
GpB	Gilpin silt loam, 3 to 8 percent slopes
HeA	Hagerstown silt loam, 0 to 3 percent slopes
HeB	Hagerstown silt loam, 3 to 8 percent slopes
HfB	Hagerstown silty clay loam, 3 to 8 percent slopes
HLB	Hazleton-Clymer channery loams, 3 to 8 percent slopes
HuB	Hustontown silt loam, 3 to 8 percent slopes
KrA	Kreamer silt loam, 0 to 3 percent slopes
LaB	Laidig gravelly loam, 3 to 8 percent slopes
LkB	Leck Kill channery silt loam, 3 to 8 percent slopes
Lo	Linden silt loam, occasionally flooded
Lr	Linden silt loam, rarely flooded
MeB	Meckesville silt loam, 3 to 8 percent slopes
MoB	Morrison channery sandy loam, 3 to 8 percent slopes
MuA	Murrill silt loam, 0 to 3 percent slopes
MuB	Murrill silt loam, 3 to 8 percent slopes
Pb	Philo silt loam
Pc	Philo-Linden silt loams
TaA	Tilsit silt loam, 0 to 3 percent slopes
TmA	Timberville silt loam, 0 to 3 percent slopes
TmB	Timberville silt loam, 3 to 8 percent slopes
UnB	Ungers loam, 3 to 8 percent slopes
WaA	Watson silt loam, 0 to 5 percent slopes
WbB	Wharton silt loam, 3 to 8 percent slopes
WhA	Wheeling silt loam, 0 to 3 percent slopes
ZoA	Zoar silt loam, 0 to 3 percent slopes
Farmland of statewide importance:	
AgC	Allenwood gravelly silt loam, 8 to 15 percent slopes
At	Atkins silt loam
Bb	Barbour-Craigsville complex
BeB	Berks channery silt loam, 3 to 8 percent slopes
BeC	Berks channery silt loam, 8 to 15 percent slopes
BuB	Buchanan-Andover gravelly loams, 3 to 8 percent slopes
BuC	Buchanan-Andover gravelly loams, 8 to 15 percent slopes
CaB	Calvin channery silt loam, 3 to 8 percent slopes
CeC	Clymer channery loam, 8 to 15 percent slopes
CmC	Comly silt loam, 8 to 15 percent slopes
Cr	Craigsville gravelly loam
GpC	Gilpin silt loam, 8 to 15 percent slopes
HeC	Hagerstown silt loam, 8 to 15 percent slopes
HgC	Hagerstown-Opequon silty clay loams, 8 to 15 percent slopes, rocky

Soil Survey of Clinton County, Pennsylvania

Table 7.--Prime Farmland and Other Important Farmland--Continued

Map symbol	Soil name
Farmland of statewide importance:	
HhA	Hartleton channery silt loam, 0 to 3 percent slopes
HhB	Hartleton channery silt loam, 3 to 8 percent slopes
HhC	Hartleton channery silt loam, 8 to 15 percent slopes
HlC	Hazleton-Clymer channery loams, 8 to 15 percent slopes
HuC	Hustontown silt loam, 8 to 15 percent slopes
LaC	Laidig gravelly loam, 8 to 15 percent slopes
LkC	Leck Kill channery silt loam, 8 to 15 percent slopes
MeC	Meckesville silt loam, 8 to 15 percent slopes
Mn	Melvin and Newark silt loams
MoC	Morrison channery sandy loam, 8 to 15 percent slopes
MuC	Murrill silt loam, 8 to 15 percent slopes
TaB	Tilsit silt loam, 3 to 8 percent slopes
TaC	Tilsit silt loam, 8 to 15 percent slopes
UnC	Ungers loam, 8 to 15 percent slopes
WbC	Wharton silt loam, 8 to 15 percent slopes
WyA	Wyoming very gravelly loam, 0 to 3 percent slopes
WyB	Wyoming very gravelly loam, 3 to 8 percent slopes

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Very limited Depth to saturated zone Droughty Too acid Depth to bedrock	1.00 1.00 0.37 0.29	Very limited Droughty Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 0.96 0.29	Very limited Droughty Depth to saturated zone Too acid Too steep for surface application Depth to bedrock	1.00 1.00 0.96 0.92 0.29
AfD: Allegheny-----	80	Very limited Slope Too acid Filtering capacity	1.00 0.50 0.01	Very limited Slope Too acid Filtering capacity	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Filtering capacity	1.00 1.00 1.00 0.01
AgB: Allenwood-----	80	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.68 0.07
AgC: Allenwood-----	80	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
AgD: Allenwood-----	90	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
At: Atkins-----	75	Very limited Depth to saturated zone Flooding Too acid Runoff	1.00 0.60 0.50 0.40	Very limited Depth to saturated zone Flooding Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Flooding	1.00 1.00 0.60

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Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ba: Barbour-----	80	Very limited Filtering capacity Flooding Too acid Droughty	1.00 0.60 0.05 0.04	Very limited Filtering capacity Flooding Too acid Droughty	1.00 1.00 0.21 0.04	Very limited Filtering capacity Flooding Too acid Droughty	1.00 0.60 0.21 0.04
Bb: Barbour-----	35	Very limited Filtering capacity Too acid Droughty	1.00 0.05 0.04	Very limited Filtering capacity Flooding Too acid Droughty	1.00 0.40 0.21 0.04	Very limited Filtering capacity Too acid Droughty	1.00 0.21 0.04
Craigsville-----	35	Very limited Filtering capacity Too acid Droughty	1.00 0.22 0.01	Very limited Filtering capacity Too acid Flooding Droughty	1.00 0.77 0.40 0.01	Very limited Filtering capacity Too acid Droughty	1.00 0.77 0.01
Bc: Basher-----	80	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.05	Very limited Flooding Depth to saturated zone Too acid	1.00 1.00 0.21	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.21
BeB: Berks-----	75	Very limited Droughty Depth to bedrock Too acid Filtering capacity	1.00 0.80 0.11 0.01	Very limited Droughty Low adsorption Depth to bedrock Too acid Filtering capacity	1.00 1.00 0.80 0.42 0.01	Very limited Droughty Depth to bedrock Too steep for surface application Too acid Filtering capacity	1.00 0.80 0.68 0.42 0.01
BeC: Berks-----	80	Very limited Droughty Depth to bedrock Slope Too acid Filtering capacity	1.00 0.80 0.63 0.11 0.01	Very limited Droughty Low adsorption Depth to bedrock Slope Too acid	1.00 1.00 0.80 0.63 0.42	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application Too acid	1.00 1.00 0.80 0.78 0.42

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeD: Berks-----	45	Very limited Slope Droughty Depth to bedrock Too acid Filtering capacity	1.00 1.00 0.80 0.11 0.01	Very limited Droughty Low adsorption Slope Depth to bedrock Too acid	1.00 1.00 1.00 0.80 0.42	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Too acid	1.00 1.00 1.00 1.00 0.80 0.42
Weikert -----	30	Very limited Slope Depth to bedrock Droughty Leaching Too acid	1.00 1.00 1.00 0.70 0.32	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.91	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 1.00 0.91
BeE: Berks-----	40	Very limited Slope Droughty Depth to bedrock Too acid Filtering capacity	1.00 1.00 0.95 0.11 0.01	Very limited Droughty Low adsorption Slope Depth to bedrock Too acid	1.00 1.00 1.00 0.95 0.42	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Too acid	1.00 1.00 1.00 1.00 0.95 0.42
Weikert -----	35	Very limited Slope Depth to bedrock Droughty Leaching Too acid	1.00 1.00 1.00 0.70 0.32	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.91	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 1.00 0.91
BgA: Brinkerton-----	70	Very limited Depth to saturated zone Droughty Runoff Too acid	1.00 0.76 0.40 0.18	Very limited Depth to saturated zone Droughty Too acid	1.00 0.76 0.67	Very limited Depth to saturated zone Droughty Too acid	1.00 0.76 0.67
BhB: Buchanan-----	75	Very limited Depth to saturated zone Droughty Too acid	1.00 0.95 0.22	Very limited Depth to saturated zone Droughty Too acid	1.00 0.95 0.77	Very limited Depth to saturated zone Droughty Too acid Too steep for surface application	1.00 0.95 0.77 0.68

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BhD: Buchanan-----	75	Very limited Depth to saturated zone Slope Droughty Too acid	1.00 1.00 0.95 0.22	Very limited Depth to saturated zone Slope Droughty Too acid	1.00 1.00 0.95 0.77	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler application Droughty Too acid	1.00 1.00 1.00 0.95 0.77
BmB: Buchanan-----	80	Very limited Depth to saturated zone Large stones content Droughty Too acid	1.00 1.00 0.97 0.22	Very limited Depth to saturated zone Droughty Too acid	1.00 0.97 0.77	Very limited Depth to saturated zone Droughty Too acid Too steep for surface application	1.00 0.97 0.77 0.08
BmC: Buchanan-----	75	Very limited Depth to saturated zone Large stones content Droughty Slope Too acid	1.00 1.00 0.97 0.84 0.22	Very limited Depth to saturated zone Droughty Slope Too acid	1.00 0.97 0.84 0.77	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.97 0.90 0.77
BuB: Buchanan-----	45	Very limited Depth to saturated zone Droughty Too acid	1.00 0.95 0.22	Very limited Depth to saturated zone Droughty Too acid	1.00 0.95 0.77	Very limited Depth to saturated zone Droughty Too acid Too steep for surface application	1.00 0.95 0.77 0.68
Andover-----	40	Very limited Depth to saturated zone Droughty Too acid Runoff	1.00 1.00 0.78 0.40	Very limited Depth to saturated zone Too acid Droughty	1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Droughty Too steep for surface application	1.00 1.00 1.00 0.68

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC: Buchanan-----	60	Very limited Depth to saturated zone Droughty Slope Too acid	1.00 0.95 0.63 0.22	Very limited Depth to saturated zone Droughty Too acid Slope	1.00 0.95 0.77 0.63	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.95 0.78 0.77
Andover-----	30	Very limited Depth to saturated zone Droughty Too acid Slope Runoff	1.00 1.00 0.78 0.63 0.40	Very limited Depth to saturated zone Too acid Droughty Slope	1.00 1.00 1.00 0.63	Very limited Depth to saturated zone Too steep for surface application Too acid Droughty Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.78
BxB: Buchanan-----	45	Very limited Depth to saturated zone Large stones content Droughty Too acid	1.00 1.00 0.97 0.22	Very limited Depth to saturated zone Droughty Too acid	1.00 0.97 0.77	Very limited Depth to saturated zone Droughty Too acid Too steep for surface application	1.00 0.97 0.77 0.68
Andover-----	30	Very limited Depth to saturated zone Large stones content Droughty Too acid Runoff	1.00 1.00 1.00 0.78 0.40	Very limited Depth to saturated zone Too acid Droughty	1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Droughty Too steep for surface application	1.00 1.00 1.00 0.68
BxC: Buchanan-----	55	Very limited Depth to saturated zone Large stones content Droughty Slope Too acid	1.00 1.00 0.97 0.84 0.22	Very limited Depth to saturated zone Droughty Slope Too acid	1.00 0.97 0.84 0.77	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.97 0.90 0.77

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Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BxC: Andover-----	20	Very limited Depth to saturated zone Large stones content Droughty Slope Too acid	1.00 1.00 1.00 0.84 0.78	Very limited Depth to saturated zone Too acid Droughty Slope	1.00 1.00 1.00 0.84	Very limited Depth to saturated zone Too steep for surface application Too acid Droughty Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.90
CaB: Calvin-----	75	Very limited Droughty Depth to bedrock Too acid Filtering capacity	1.00 0.42 0.05 0.01	Very limited Low adsorption Droughty Depth to bedrock Too acid Filtering capacity	1.00 1.00 0.42 0.21 0.01	Very limited Droughty Depth to bedrock Too steep for surface application Too acid Filtering capacity	1.00 0.42 0.32 0.21 0.01
CaC: Calvin-----	75	Very limited Droughty Slope Depth to bedrock Too acid Filtering capacity	1.00 0.63 0.42 0.05 0.01	Very limited Low adsorption Droughty Slope Depth to bedrock Too acid	1.00 1.00 0.63 0.42 0.21	Very limited Too steep for surface application Droughty Too steep for sprinkler application Depth to bedrock Too acid	1.00 1.00 1.00 0.78 0.42 0.21
CbC: Cedarcreek-----	85	Very limited Cobble content Depth to saturated zone Droughty Too acid Leaching	1.00 1.00 0.98 0.73 0.70	Very limited Too acid Cobble content Depth to saturated zone Droughty Filtering capacity	1.00 1.00 1.00 0.98 0.01	Very limited Too acid Too steep for surface application Cobble content Depth to saturated zone Droughty	1.00 1.00 1.00 1.00 1.00 0.98
CbD: Cedarcreek-----	85	Very limited Slope Cobble content Depth to saturated zone Droughty Too acid	1.00 1.00 1.00 0.98 0.73	Very limited Slope Too acid Cobble content Depth to saturated zone Droughty	1.00 1.00 1.00 1.00 0.98	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content Depth to saturated zone	1.00 1.00 1.00 1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CbE: Cedarcreek-----	80	Very limited Slope Cobble content Droughty Too acid Leaching	1.00 1.00 0.98 0.73 0.45	Very limited Slope Too acid Cobble content Filtering capacity	1.00 1.00 1.00 0.98 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content Droughty	1.00 1.00 1.00 1.00 0.98
CcA: Chenango-----	80	Very limited Filtering capacity Droughty Leaching Too acid	1.00 0.64 0.45 0.11	Very limited Filtering capacity Droughty Too acid	1.00 0.64 0.42	Very limited Filtering capacity Droughty Too acid	1.00 0.64 0.42
CcB: Chenango-----	80	Very limited Filtering capacity Droughty Leaching Too acid	1.00 0.64 0.45 0.11	Very limited Filtering capacity Droughty Too acid	1.00 0.64 0.42	Very limited Filtering capacity Too steep for surface application Droughty Too acid	1.00 0.68 0.64 0.42
CdB: Clymer-----	80	Somewhat limited Droughty Too acid Filtering capacity	0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Too steep for surface application Droughty Too acid Filtering capacity	0.68 0.49 0.21 0.01
CdD: Clymer-----	80	Very limited Slope Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Slope Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.49 0.21 0.01
CeA: Clymer-----	80	Somewhat limited Droughty Too acid Filtering capacity	0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Droughty Too acid Filtering capacity	0.49 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CeB: Clymer-----	75	Somewhat limited Droughty Too acid Filtering capacity	0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Too steep for surface application Droughty Too acid Filtering capacity	0.68 0.49 0.21 0.01
CeC: Clymer-----	80	Somewhat limited Slope Droughty Too acid Filtering capacity	0.63 0.49 0.05 0.01	Very limited Low adsorption Slope Droughty Too acid Filtering capacity	1.00 0.63 0.49 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Filtering capacity	1.00 0.78 0.49 0.21 0.01
CfB: Clymer-----	70	Very limited Large stones content Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Droughty Too acid Too steep for surface application Filtering capacity	0.49 0.21 0.08 0.01
CgB: Clymer-----	40	Very limited Large stones content Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Droughty Too acid Too steep for surface application Filtering capacity	0.49 0.21 0.08 0.01
Cookport-----	35	Very limited Depth to saturated zone Large stones content Droughty Too acid	1.00 1.00 0.98 0.78	Very limited Depth to saturated zone Low adsorption Too acid Droughty	1.00 1.00 1.00 0.98	Very limited Depth to saturated zone Too acid Droughty Too steep for surface application	1.00 1.00 0.98 0.08
ChB: Clymer-----	50	Very limited Large stones content Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Droughty Too acid Too steep for surface application Filtering capacity	0.49 0.21 0.08 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChB: Hazleton-----	35	Very limited Large stones content Large stones on the surface Too acid Droughty Filtering capacity	1.00 0.92 0.78 0.01 0.01	Very limited Low adsorption Too acid Large stones on the surface Droughty Filtering capacity	1.00 1.00 0.92 0.01 0.01	Very limited Too acid Large stones on the surface Too steep for surface application Droughty Filtering capacity	1.00 0.92 0.08 0.01 0.01
CmA: Comly-----	80	Very limited Depth to saturated zone Dense layer Droughty Slow water movement Too acid	1.00 1.00 0.98 0.41 0.11	Very limited Depth to saturated zone Low adsorption Droughty Too acid Slow water movement	1.00 1.00 0.98 0.42 0.31	Very limited Depth to saturated zone Droughty Too acid Slow water movement	1.00 0.98 0.42 0.31
CmB: Comly-----	80	Very limited Depth to saturated zone Dense layer Droughty Slow water movement Too acid	1.00 1.00 0.98 0.41 0.11	Very limited Depth to saturated zone Low adsorption Droughty Too acid Slow water movement	1.00 1.00 0.98 0.42 0.31	Very limited Depth to saturated zone Droughty Too steep for surface application Too acid Slow water movement	1.00 0.98 0.68 0.42 0.31
CmC: Comly-----	80	Very limited Depth to saturated zone Dense layer Droughty Slope Slow water movement	1.00 1.00 0.98 0.63 0.41	Very limited Depth to saturated zone Low adsorption Droughty Slope Too acid	1.00 1.00 0.98 0.63 0.42	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.98 0.78 0.42
CnB: Cookport-----	80	Very limited Slow water movement Depth to saturated zone Depth to noncemented pan Too acid	1.00 1.00 0.90 0.50	Very limited Low adsorption Slow water movement Too acid Depth to saturated zone Depth to noncemented pan	1.00 1.00 1.00 1.00 0.90	Very limited Slow water movement Too acid Depth to saturated zone Depth to noncemented pan Too steep for surface application	1.00 1.00 1.00 1.00 0.90 0.08

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoA: Cookport-----	80	Very limited Depth to saturated zone Droughty Too acid	1.00 1.00 0.05	Very limited Depth to saturated zone Low adsorption Droughty Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Droughty Too acid	1.00 1.00 0.21
CoB: Cookport-----	80	Very limited Depth to saturated zone Droughty Too acid	1.00 1.00 0.50	Very limited Depth to saturated zone Low adsorption Too acid Droughty	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Droughty Too steep for surface application	1.00 1.00 1.00 0.68
CpB: Cookport-----	70	Very limited Depth to saturated zone Large stones content Slow water movement Depth to noncemented pan Too acid	1.00 1.00 1.00 0.95 0.50	Very limited Depth to saturated zone Low adsorption Slow water movement Too acid Depth to noncemented pan	1.00 1.00 1.00 1.00 0.95	Very limited Depth to saturated zone Slow water movement Too acid Depth to noncemented pan Cobble content	1.00 1.00 1.00 0.95 0.18
CpD: Cookport-----	75	Very limited Depth to saturated zone Large stones content Slow water movement Slope Depth to noncemented pan	1.00 1.00 1.00 1.00 0.95	Very limited Depth to saturated zone Low adsorption Slow water movement Slope Too acid	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too steep for surface application Slow water movement Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 1.00
Cr: Craigsville-----	75	Very limited Filtering capacity Too acid Droughty	1.00 0.22 0.01	Very limited Filtering capacity Too acid Flooding Droughty	1.00 0.77 0.40 0.01	Very limited Filtering capacity Too acid Droughty	1.00 0.77 0.01
Fr: Freetown-----	85	Very limited Ponding Depth to saturated zone Too acid Runoff	1.00 1.00 0.78 0.40	Very limited Ponding Depth to saturated zone Low adsorption Too acid	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too acid	1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GpB: Gilpin-----	75	Somewhat limited Droughty Depth to bedrock Too acid	0.96 0.54 0.22	Very limited Low adsorption Droughty Too acid Depth to bedrock	1.00 0.96 0.77 0.54	Somewhat limited Droughty Too acid Depth to bedrock Too steep for surface application	0.96 0.77 0.54 0.32
GpC: Gilpin-----	75	Somewhat limited Droughty Slope Depth to bedrock Too acid	0.96 0.63 0.54 0.22	Very limited Low adsorption Droughty Too acid Slope Depth to bedrock	1.00 0.96 0.77 0.63 0.54	Very limited Too steep for surface application Droughty Too steep for sprinkler application Too acid Depth to bedrock	1.00 0.96 0.78 0.77 0.54
GwD: Gilpin-----	50	Very limited Slope Droughty Depth to bedrock Too acid	1.00 0.96 0.54 0.22	Very limited Low adsorption Slope Droughty Too acid Depth to bedrock	1.00 1.00 0.96 0.77 0.54	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Depth to bedrock	1.00 1.00 1.00 0.96 0.77 0.54
Wharton-----	30	Very limited Slope Depth to saturated zone Too acid Slow water movement Droughty	1.00 1.00 0.78 0.74 0.05	Very limited Depth to saturated zone Slope Too acid Slow water movement Droughty	1.00 1.00 1.00 0.60 0.05	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler application Too acid Slow water movement	1.00 1.00 1.00 1.00 1.00 0.60
HeA: Hagerstown-----	75	Somewhat limited Too acid Filtering capacity	0.05 0.01	Very limited Low adsorption Too acid Filtering capacity	1.00 0.21 0.01	Somewhat limited Too acid Filtering capacity	0.21 0.01
HeB: Hagerstown-----	75	Somewhat limited Too acid Filtering capacity	0.05 0.01	Very limited Low adsorption Too acid Filtering capacity	1.00 0.21 0.01	Somewhat limited Too steep for surface application Too acid Filtering capacity	0.68 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeC: Hagerstown-----	80	Somewhat limited Slope Too acid Filtering capacity	0.63 0.05 0.01	Very limited Low adsorption Slope Too acid Filtering capacity	1.00 0.63 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Filtering capacity	1.00 0.78 0.21 0.01
HfB: Hagerstown-----	80	Somewhat limited Too acid Filtering capacity	0.05 0.01	Very limited Low adsorption Too acid Filtering capacity	1.00 0.21 0.01	Somewhat limited Too steep for surface application Too acid Filtering capacity	0.68 0.21 0.01
HgC: Hagerstown-----	60	Somewhat limited Slope Too acid	0.63 0.05	Very limited Low adsorption Slope Too acid	1.00 0.63 0.21	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.21
Opequon-----	30	Very limited Depth to bedrock Droughty Slope Too acid Filtering capacity	1.00 1.00 0.63 0.11 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 0.63 0.42	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 0.78 0.42
HhA: Hartleton-----	80	Somewhat limited Droughty Too acid	0.81 0.22	Very limited Low adsorption Droughty Too acid	1.00 0.81 0.77	Somewhat limited Droughty Too acid	0.81 0.77
HhB: Hartleton-----	80	Somewhat limited Droughty Too acid	0.81 0.22	Very limited Low adsorption Droughty Too acid	1.00 0.81 0.77	Somewhat limited Droughty Too acid Too steep for surface application	0.81 0.77 0.68

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HhC: Hartleton-----	80	Somewhat limited Droughty Slope Too acid	0.81 0.63 0.22	Very limited Low adsorption Droughty Too acid Droughty Slope	1.00 0.81 0.77 0.81 0.63	Very limited Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 0.81 0.78 0.77
HjC: Hazleton-----	75	Very limited Large stones content Large stones on the surface Slope Too acid Droughty	1.00 0.92 0.84 0.78 0.01	Very limited Low adsorption Too acid Large stones on the surface Slope Droughty	1.00 1.00 0.92 0.84 0.01	Very limited Too steep for surface application Too acid Large stones on the surface Too steep for sprinkler application Droughty	1.00 1.00 0.92 0.90 0.01
HkE: Hazleton-----	80	Very limited Slope Large stones content Large stones on the surface Too acid Droughty	1.00 1.00 0.92 0.78 0.01	Very limited Low adsorption Slope Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01
HlB: Clymer-----	40	Somewhat limited Droughty Too acid Filtering capacity	0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Too steep for surface application Droughty Too acid Filtering capacity	0.68 0.49 0.21 0.01
Hazleton-----	40	Somewhat limited Large stones on the surface Too acid Droughty Filtering capacity	0.92 0.78 0.01 0.01	Very limited Low adsorption Too acid Large stones on the surface Droughty Filtering capacity	1.00 1.00 0.92 0.01 0.01	Very limited Too acid Large stones on the surface Too steep for surface application Droughty Filtering capacity	1.00 0.92 0.68 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
H1C: Clymer-----	40	Somewhat limited Slope Droughty Too acid Filtering capacity	0.63 0.49 0.05 0.01	Very limited Low adsorption Slope Droughty Too acid Filtering capacity	1.00 0.63 0.49 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Filtering capacity	1.00 0.78 0.49 0.21 0.01
Hazleton-----	40	Somewhat limited Large stones on the surface Too acid Slope Droughty Filtering capacity	0.92 0.78 0.63 0.01 0.01	Very limited Low adsorption Too acid Large stones on the surface Slope Droughty	1.00 1.00 0.92 0.63 0.01	Very limited Too steep for surface application Too acid Large stones on the surface Too steep for sprinkler application Droughty	1.00 1.00 0.92 0.78 0.01
H1D: Clymer-----	40	Very limited Slope Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Slope Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.21 0.01
Hazleton-----	40	Very limited Slope Large stones on the surface Too acid Droughty Filtering capacity	1.00 0.92 0.78 0.01 0.01	Very limited Low adsorption Slope Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01
HmB: Hazleton-----	45	Very limited Large stones content Large stones on the surface Too acid Droughty Filtering capacity	1.00 0.92 0.78 0.01 0.01	Very limited Low adsorption Too acid Large stones on the surface Droughty Filtering capacity	1.00 1.00 0.92 0.01 0.01	Very limited Too acid Large stones on the surface Too steep for surface application Droughty Filtering capacity	1.00 0.92 0.08 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HmB: Clymer-----	40	Very limited Large stones content Droughty Too acid Filtering capacity	1.00 0.49 0.05 0.01	Very limited Low adsorption Droughty Too acid Filtering capacity	1.00 0.49 0.21 0.01	Somewhat limited Droughty Too acid Too steep for surface application Filtering capacity	 0.49 0.21 0.08 0.01
HmD: Hazleton-----	50	Very limited Large stones content Slope Large stones on the surface Too acid Droughty	1.00 1.00 0.92 0.78 0.01	Very limited Low adsorption Too acid Slope Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01	Very limited Too steep for surface application Too acid Too steep for sprinkler application Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01
Clymer-----	30	Very limited Large stones content Slope Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.05 0.01	Very limited Low adsorption Slope Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.21 0.01	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Filtering capacity	1.00 1.00 0.49 0.21 0.01
HoF: Hazleton-----	35	Very limited Slope Large stones content Large stones on the surface Too acid Droughty	1.00 1.00 0.92 0.78 0.01	Very limited Low adsorption Slope Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Large stones on the surface Droughty	1.00 1.00 1.00 0.92 0.01
Laidig-----	35	Very limited Slope Large stones content Large stones on the surface Droughty Too acid	1.00 1.00 1.00 0.80 0.78	Very limited Slope Too acid Large stones on the surface Droughty Depth to saturated zone	1.00 1.00 1.00 0.80 0.37	Very limited Too steep for surface application Too steep for sprinkler application Too acid Large stones on the surface Droughty	1.00 1.00 1.00 1.00 0.80

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HuB: Hustontown-----	75	Very limited Depth to saturated zone Droughty Too acid	1.00 0.83 0.18	Very limited Depth to saturated zone Droughty Too acid	1.00 0.83 0.67	Very limited Depth to saturated zone Droughty Too steep for surface application Too acid	1.00 0.83 0.68 0.67
HuC: Hustontown-----	80	Very limited Depth to saturated zone Droughty Slope Too acid	1.00 0.83 0.63 0.18	Very limited Depth to saturated zone Droughty Too acid Slope	1.00 0.83 0.67 0.63	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.83 0.78 0.67
HuD: Hustontown-----	75	Very limited Slope Depth to saturated zone Strongly contrasting textural stratification Droughty Too acid	1.00 1.00 0.84 0.83 0.18	Very limited Depth to saturated zone Slope Strongly contrasting textural stratification Droughty Too acid	1.00 1.00 0.84 0.83 0.67	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler application Droughty Too acid	1.00 1.00 1.00 1.00 0.83 0.67
KcD: Klinesville-----	80	Very limited Slope Depth to bedrock Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.32 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.91	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 0.91
KcE: Klinesville-----	80	Very limited Slope Depth to bedrock Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.32 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.91	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 0.91

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KrA: Kreamer-----	80	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.11	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.42	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.42
LaB: Laidig-----	80	Very limited Large stones on the surface Droughty Too acid Depth to saturated zone Cobble content	1.00 0.80 0.78 0.37 0.12	Very limited Too acid Large stones on the surface Droughty Depth to saturated zone Cobble content	1.00 1.00 0.80 0.37 0.12	Very limited Too acid Large stones on the surface Droughty Too steep for surface application Depth to saturated zone	1.00 1.00 0.80 0.68 0.37
LaC: Laidig-----	80	Very limited Large stones on the surface Droughty Too acid Slope Depth to saturated zone	1.00 0.80 0.78 0.63 0.37	Very limited Too acid Large stones on the surface Droughty Slope Depth to saturated zone	1.00 1.00 0.80 0.63 0.37	Very limited Too steep for surface application Too acid Large stones on the surface Droughty Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.80 0.78
LaD: Laidig-----	80	Very limited Slope Large stones on the surface Droughty Too acid Depth to saturated zone	1.00 1.00 0.80 0.78 0.37	Very limited Slope Too acid Large stones on the surface Droughty Depth to saturated zone	1.00 1.00 1.00 0.80 0.37	Very limited Too steep for surface application Too steep for sprinkler application Too acid Large stones on the surface Droughty	1.00 1.00 1.00 1.00 1.00 0.80
LdB: Laidig-----	80	Very limited Large stones content Large stones on the surface Droughty Too acid Depth to saturated zone	1.00 1.00 0.80 0.78 0.37	Very limited Too acid Large stones on the surface Droughty Depth to saturated zone Cobble content	1.00 1.00 0.80 0.37 0.12	Very limited Too acid Large stones on the surface Droughty Depth to saturated zone Cobble content	1.00 1.00 0.80 0.37 0.12

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LdC: Laidig-----	75	Very limited Large stones content Large stones on the surface Slope Droughty Too acid	1.00 1.00 0.84 0.80 0.78	Very limited Too acid Large stones on the surface Slope Droughty Depth to saturated zone	1.00 1.00 0.84 0.80 0.37	Very limited Too steep for surface application Too acid Large stones on the surface Too steep for sprinkler application Droughty	1.00 1.00 1.00 0.90 0.80
LkB: Leck Kill-----	80	Somewhat limited Too acid Droughty	0.32 0.01	Very limited Low adsorption Too acid Droughty	1.00 0.91 0.01	Somewhat limited Too acid Too steep for surface application Droughty	0.91 0.68 0.01
LkC: Leck Kill-----	80	Somewhat limited Slope Too acid Droughty	0.63 0.32 0.01	Very limited Low adsorption Too acid Slope Droughty	1.00 0.91 0.63 0.01	Very limited Too steep for surface application Too acid Too steep for sprinkler application Droughty	1.00 0.91 0.78 0.01
LkD: Leck Kill-----	80	Very limited Slope Too acid Droughty	1.00 0.32 0.01	Very limited Low adsorption Slope Too acid Droughty	1.00 1.00 0.91 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty	1.00 1.00 0.91 0.01
LkE: Leck Kill-----	80	Very limited Slope Too acid Droughty	1.00 0.32 0.01	Very limited Low adsorption Slope Too acid Droughty	1.00 1.00 0.91 0.01	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty	1.00 1.00 0.91 0.01
LmD: Leck Kill-----	80	Somewhat limited Slope Large stones content Too acid Droughty	0.84 0.53 0.32 0.01	Very limited Low adsorption Too acid Slope Droughty	1.00 0.91 0.84 0.01	Very limited Too steep for surface application Too acid Too steep for sprinkler application Droughty	1.00 0.91 0.90 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LnB: Leetonia-----	75	Very limited Filtering capacity Droughty Large stones Large stones on the surface Too acid	1.00 1.00 1.00 1.00 1.00 0.86	Very limited Droughty Filtering capacity Low adsorption Too acid Large stones on the surface	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Droughty Filtering capacity Too acid Large stones on the surface Cobble content	1.00 1.00 1.00 1.00 1.00 0.12
LnC: Leetonia-----	80	Very limited Filtering capacity Droughty Large stones Large stones on the surface Too acid	1.00 1.00 1.00 1.00 1.00 0.86	Very limited Droughty Filtering capacity Low adsorption Too acid Large stones on the surface	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Droughty Filtering capacity Too steep for surface application Too acid Large stones on the surface	1.00 1.00 1.00 1.00 1.00 1.00
Lo: Linden-----	75	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.11	Very limited Filtering capacity Flooding Too acid	1.00 1.00 0.42	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.42
Lr: Linden-----	80	Very limited Filtering capacity Too acid	1.00 0.11	Very limited Filtering capacity Too acid Flooding	1.00 0.42 0.40	Very limited Filtering capacity Too acid	1.00 0.42
MeB: Meckesville-----	80	Somewhat limited Too acid Depth to saturated zone Droughty	0.50 0.46 0.06	Very limited Too acid Depth to saturated zone Droughty	1.00 0.46 0.06	Very limited Too acid Too steep for surface application Depth to saturated zone Droughty	1.00 0.68 0.46 0.06
MeC: Meckesville-----	80	Somewhat limited Slope Too acid Depth to saturated zone Droughty	0.63 0.50 0.46 0.06	Very limited Too acid Slope Depth to saturated zone Droughty	1.00 0.63 0.46 0.06	Very limited Too steep for surface application Too acid Too steep for sprinkler application Depth to saturated zone Droughty	1.00 1.00 0.78 0.46 0.06

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MeD: Meckesville-----	80	Very limited Slope Too acid Depth to saturated zone Droughty	1.00 0.50 0.46 0.06	Very limited Slope Too acid Depth to saturated zone Droughty	1.00 1.00 0.46 0.06	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to saturated zone Droughty	1.00 1.00 1.00 1.00 0.46 0.06
MhD: Meckesville-----	80	Very limited Slope Large stones content Too acid Depth to saturated zone Droughty	1.00 1.00 0.50 0.46 0.06	Very limited Slope Too acid Depth to saturated zone Droughty	1.00 1.00 0.46 0.06	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to saturated zone Droughty	1.00 1.00 1.00 1.00 0.46 0.06
Mn: Melvin-----	40	Very limited Depth to saturated zone Flooding Runoff Too acid	1.00 0.60 0.40 0.03	Very limited Depth to saturated zone Flooding Too acid	1.00 1.00 0.14	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.14
Newark-----	40	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.03	Very limited Depth to saturated zone Flooding Too acid	1.00 1.00 0.14	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.14
MoB: Morrison-----	80	Somewhat limited Low adsorption Too acid	0.41 0.18	Somewhat limited Too acid Low adsorption	0.67 0.23	Somewhat limited Too steep for surface application Too acid Low adsorption	0.68 0.67 0.41
MoC: Morrison-----	80	Somewhat limited Slope Low adsorption Too acid	0.63 0.41 0.18	Somewhat limited Too acid Slope Low adsorption	0.67 0.63 0.23	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	1.00 0.78 0.67 0.41
MuA: Murrill-----	80	Somewhat limited Too acid	0.05	Somewhat limited Too acid	0.21	Somewhat limited Too acid	0.21

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MuB: Murrill-----	75	Somewhat limited Too acid	0.05	Somewhat limited Too acid	0.21	Somewhat limited Too steep for surface application Too acid	0.68 0.21
MuC: Murrill-----	75	Somewhat limited Slope Too acid	0.63 0.05	Somewhat limited Slope Too acid	0.63 0.21	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.21
MuD: Murrill-----	80	Very limited Slope Too acid	1.00 0.05	Very limited Slope Too acid	1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.21
NoA: Nolo-----	80	Very limited Depth to saturated zone Large stones on the surface Droughty Too acid Runoff	1.00 1.00 0.99 0.50 0.40	Very limited Depth to saturated zone Low adsorption Large stones on the surface Too acid Droughty	1.00 1.00 1.00 1.00 0.99	Very limited Depth to saturated zone Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.99
NsA: Nolo-----	80	Very limited Depth to saturated zone Large stones content Large stones on the surface Droughty Too acid	1.00 1.00 1.00 0.99 0.50	Very limited Depth to saturated zone Low adsorption Large stones on the surface Too acid Droughty	1.00 1.00 1.00 1.00 0.99	Very limited Depth to saturated zone Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.99
OeE: Opequon-----	80	Very limited Slope Depth to bedrock Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.11 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.42	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 0.42

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OhD: Opequon-----	70	Very limited Slope Depth to bedrock Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.11 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.42	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 0.42
Hagerstown-----	20	Very limited Slope Too acid	1.00 0.11	Very limited Low adsorption Slope Too acid	1.00 1.00 0.42	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.42
OsD: Opequon-----	70	Very limited Slope Depth to bedrock Droughty Too acid Filtering capacity	1.00 1.00 1.00 0.11 0.01	Very limited Droughty Depth to bedrock Low adsorption Slope Too acid	1.00 1.00 1.00 1.00 0.42	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 0.42
Hagerstown-----	20	Very limited Slope Too acid	1.00 0.11	Very limited Low adsorption Slope Too acid	1.00 1.00 0.42	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.42
PaE: Pennval-----	80	Very limited Slope Large stones content Slow water movement Too acid	1.00 1.00 0.76 0.37	Very limited Low adsorption Slope Too acid Slow water movement	1.00 1.00 0.96 0.62	Very limited Too steep for surface application Too steep for sprinkler application Too acid Slow water movement	1.00 1.00 1.00 0.96 0.62
Pb: Philo-----	75	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.05 0.01	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 1.00 0.21 0.01	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pc: Philo-----	45	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.05 0.01	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 1.00 0.21 0.01	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.21 0.01
Linden-----	40	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.11	Very limited Filtering capacity Flooding Too acid	1.00 1.00 0.42	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.42
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Flooding Filtering capacity Droughty Leaching Too acid	1.00 1.00 0.95 0.45 0.22	Very limited Flooding Filtering capacity Droughty Too acid	1.00 1.00 0.95 0.77	Very limited Flooding Filtering capacity Droughty Too acid	1.00 1.00 0.95 0.77
Pu: Purdy-----	80	Very limited Depth to saturated zone Slow water movement Too acid Runoff	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Very limited Depth to saturated zone Droughty Too acid	1.00 0.74 0.50	Very limited Depth to saturated zone Too acid Droughty	1.00 1.00 0.74	Very limited Depth to saturated zone Too acid Droughty	1.00 1.00 0.74
TaB: Tilsit-----	80	Very limited Depth to saturated zone Droughty Too acid	1.00 0.74 0.50	Very limited Depth to saturated zone Too acid Droughty	1.00 1.00 0.74	Very limited Depth to saturated zone Too acid Droughty Too steep for surface application	1.00 1.00 0.74 0.32

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TaC: Tilsit-----	80	Very limited Depth to saturated zone Droughty Slope Too acid	1.00 0.74 0.63 0.50	Very limited Depth to saturated zone Too acid Droughty Slope	1.00 1.00 0.74 0.63	Very limited Depth to saturated zone Too steep for surface application Too acid Too steep for sprinkler application Droughty	1.00 1.00 1.00 0.78 0.74
TmA: Timberville-----	80	Somewhat limited Too acid Filtering capacity	0.05 0.01	Somewhat limited Flooding Too acid Filtering capacity	0.40 0.21 0.01	Somewhat limited Too acid Filtering capacity	0.21 0.01
TmB: Timberville-----	80	Somewhat limited Too acid Filtering capacity	0.05 0.01	Somewhat limited Too acid Filtering capacity	0.21 0.01	Somewhat limited Too steep for surface application Too acid Filtering capacity	0.68 0.21 0.01
UnB: Ungers-----	75	Somewhat limited Too acid Droughty	0.37 0.05	Very limited Low adsorption Too acid Droughty	1.00 0.96 0.05	Somewhat limited Too acid Too steep for surface application Droughty	0.96 0.68 0.05
UnC: Ungers-----	80	Somewhat limited Slope Too acid Droughty	0.63 0.37 0.05	Very limited Low adsorption Too acid Slope Droughty	1.00 0.96 0.63 0.05	Very limited Too steep for surface application Too acid Too steep for sprinkler application Droughty	1.00 0.96 0.78 0.05
UoB: Ungers-----	85	Very limited Large stones content Large stones on the surface Too acid Droughty Low adsorption	1.00 1.00 0.37 0.05 0.01	Very limited Low adsorption Large stones on the surface Too acid Droughty	1.00 1.00 0.96 0.05	Very limited Large stones on the surface Too acid Too steep for surface application Droughty Low adsorption	1.00 0.96 0.08 0.05 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UoC: Ungers-----	80	Very limited Large stones content Large stones on the surface Slope Too acid Droughty	1.00 1.00 0.84 0.37 0.05	Very limited Low adsorption Large stones on the surface Too acid Droughty	1.00 1.00 0.96 0.84 0.05	Very limited Too steep for surface application Large stones on the surface Too acid Too steep for sprinkler application Droughty	1.00 1.00 1.00 0.96 0.90 0.05
UoE: Ungers-----	80	Very limited Slope Large stones content Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.37 0.05	Very limited Low adsorption Slope Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.96 0.05	Very limited Too steep for surface application Too steep for sprinkler application Large stones on the surface Too acid Droughty	1.00 1.00 1.00 1.00 0.96 0.05
UpF: Ungers-----	50	Very limited Slope Large stones content Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.37 0.05	Very limited Low adsorption Slope Large stones on the surface Too acid Droughty	1.00 1.00 1.00 0.96 0.05	Very limited Too steep for surface application Too steep for sprinkler application Large stones on the surface Too acid Droughty	1.00 1.00 1.00 1.00 0.96 0.05
Meckesville-----	30	Very limited Slope Large stones content Too acid Depth to saturated zone Droughty	1.00 1.00 0.50 0.24 0.19	Very limited Slope Too acid Depth to saturated zone Droughty	1.00 1.00 0.24 0.19	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to saturated zone Droughty	1.00 1.00 1.00 1.00 0.24 0.19
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Very limited Droughty Depth to bedrock Too acid Slope Filtering capacity	1.00 0.80 0.11 0.04 0.01	Very limited Droughty Low adsorption Depth to bedrock Too acid Slope	1.00 1.00 0.80 0.42 0.04	Very limited Droughty Too steep for surface application Depth to bedrock Too acid Too steep for sprinkler application	1.00 1.00 0.80 0.42 0.22

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Depth to saturated zone Dense layer Droughty Slow water movement Too acid	1.00 1.00 0.98 0.41 0.11	Very limited Depth to saturated zone Low adsorption Droughty Too acid Slow water movement	1.00 1.00 0.98 0.42 0.31	Very limited Depth to saturated zone Droughty Too acid Slow water movement Too steep for surface application	1.00 0.98 0.42 0.31 0.08
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Depth to saturated zone Dense layer Droughty Slope Slow water movement	1.00 1.00 0.98 0.63 0.41	Very limited Depth to saturated zone Low adsorption Droughty Slope Too acid	1.00 1.00 0.98 0.63 0.42	Very limited Depth to saturated zone Too steep for surface application Droughty Too steep for sprinkler application Too acid	1.00 1.00 0.98 0.78 0.42
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Very limited Filtering capacity Too acid	1.00 0.11	Very limited Filtering capacity Too acid Flooding	1.00 0.42 0.20	Very limited Filtering capacity Too acid	1.00 0.42
Waa: Watson-----	80	Very limited Depth to saturated zone Droughty Too acid	1.00 0.89 0.22	Very limited Depth to saturated zone Droughty Too acid	1.00 0.89 0.77	Very limited Depth to saturated zone Droughty Too acid	1.00 0.89 0.77
WbB: Wharton-----	80	Very limited Depth to saturated zone Too acid Slow water movement Droughty	1.00 0.78 0.74 0.05	Very limited Depth to saturated zone Too acid Slow water movement Droughty	1.00 1.00 0.60 0.05	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application Droughty	1.00 1.00 0.60 0.32 0.05

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbC: Wharton-----	80	Very limited Depth to saturated zone Too acid Slow water movement Slope Droughty	1.00 0.78 0.74 0.63 0.05	Very limited Depth to saturated zone Too acid Slope Slow water movement Droughty	1.00 1.00 0.63 0.60 0.05	Very limited Depth to saturated zone Too steep for surface application Too acid Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 0.78 0.60
WeB: Wharton-----	80	Very limited Depth to saturated zone Too acid Slow water movement Large stones content Droughty	1.00 0.78 0.74 0.53 0.05	Very limited Depth to saturated zone Too acid Slow water movement Droughty	1.00 1.00 0.60 0.05	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application Droughty	1.00 1.00 0.60 0.08 0.05
WgB: Wharton-----	50	Very limited Depth to saturated zone Too acid Slow water movement Large stones content Droughty	1.00 0.78 0.74 0.53 0.05	Very limited Depth to saturated zone Too acid Slow water movement Droughty	1.00 1.00 0.60 0.05	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application Droughty	1.00 1.00 0.60 0.08 0.05
Cookport-----	30	Very limited Depth to saturated zone Droughty Large stones content Too acid	1.00 1.00 0.53 0.05	Very limited Depth to saturated zone Low adsorption Droughty Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Droughty Too acid Too steep for surface application	1.00 1.00 0.21 0.08
WhA: Wheeling-----	80	Very limited Filtering capacity Too acid	1.00 0.11	Very limited Filtering capacity Too acid	1.00 0.42	Very limited Filtering capacity Too acid	1.00 0.42
WyA: Wyoming-----	85	Very limited Filtering capacity Droughty Too acid Leaching	1.00 0.59 0.50 0.45	Very limited Filtering capacity Too acid Droughty	1.00 1.00 0.59	Very limited Filtering capacity Too acid Droughty	1.00 1.00 0.59

Soil Survey of Clinton County, Pennsylvania

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB: Wyoming-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Droughty	0.59	Too acid	1.00	Too acid	1.00
		Too acid	0.50	Droughty	0.59	Too steep for surface application	0.68
		Leaching	0.45			Droughty	0.59
ZoA: Zoar-----	80	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to saturated zone	1.00	Too acid	1.00	Too acid	1.00
		Too acid	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00

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Table 8b.--Agricultural Waste Management (Part 2)

(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	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Very limited Depth to saturated zone Depth to bedrock Seepage Too acid Too steep for surface application	1.00 1.00 1.00 0.88 0.69 0.06	Very limited Depth to saturated zone Depth to bedrock Slope Slow water movement	1.00 1.00 1.00 0.88 0.69	Very limited Depth to saturated zone Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 0.96 0.92 0.06
AfD: Allegheny-----	80	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.01
AgB: Allenwood-----	80	Very limited Seepage Too acid	1.00 0.07	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Too acid	0.68 0.07
AgC: Allenwood-----	80	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.07	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 0.07
AgD: Allenwood-----	90	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.07	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 0.07
At: Atkins-----	75	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Depth to saturated zone Too acid Flooding	1.00 1.00 0.60

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ba: Barbour-----	80	Very limited Flooding Seepage Too acid	1.00 1.00 0.21	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.21
Bb: Barbour-----	35	Very limited Seepage Flooding Too acid	1.00 0.40 0.21	Very limited Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Filtering capacity Too acid	1.00 0.21
Craigsville-----	35	Very limited Seepage Too acid Stone content Flooding	1.00 0.77 0.48 0.40	Somewhat limited Stone content	0.70	Very limited Filtering capacity Too acid	1.00 0.77
Bc: Basher-----	80	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Slow water movement Flooding Too acid	1.00 1.00 1.00 0.60 0.03	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.21
BeB: Berks-----	75	Very limited Seepage Depth to bedrock Too acid	1.00 1.00 0.42	Very limited Depth to bedrock Slow water movement Slope Too acid Cobble content	1.00 0.61 0.50 0.21 0.02	Very limited Depth to bedrock Too steep for surface application Too acid Filtering capacity	1.00 0.68 0.42 0.01
BeC: Berks-----	80	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.61 0.21 0.02	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 1.00 0.42 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeD: Berks-----	45	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.61 0.21 0.02	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01
Weikert-----	30	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00 1.00 1.00 0.91 0.12
BeE: Berks-----	40	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.61 0.21 0.02	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01
Weikert-----	35	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00 1.00 1.00 0.91 0.12
EgA: Brinkerton-----	70	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.67	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Too acid	1.00 0.67
BhB: Buchanan-----	75	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.77	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 0.77 0.68

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BhD: Buchanan-----	75	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 0.77
BmB: Buchanan-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.77	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 0.77 0.08
BmC: Buchanan-----	75	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 0.77
BuB: Buchanan-----	45	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.77	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 0.77 0.68
Andover-----	40	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 0.68
BuC: Buchanan-----	60	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 0.77

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC: Andover-----	30	Very limited Seepage Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 1.00 1.00	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too acid Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00
BxB: Buchanan-----	45	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.77	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 0.77 0.68
Andover-----	30	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 0.68
BxC: Buchanan-----	55	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 0.77
Andover-----	20	Very limited Seepage Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 1.00 1.00	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too acid Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00
CaB: Calvin-----	75	Very limited Seepage Depth to bedrock Cobble content Too acid	1.00 1.00 0.55 0.21	Very limited Depth to bedrock Cobble content Slow water movement Slope	1.00 0.98 0.31 0.12	Very limited Depth to bedrock Too steep for surface application Too acid Filtering capacity	1.00 0.32 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CaC: Calvin-----	75	Very limited Seepage Depth to bedrock Too steep for surface application Cobble content Too acid	1.00 1.00 1.00 0.55 0.21	Very limited Slope Depth to bedrock Cobble content Slow water movement	1.00 1.00 0.98 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.21 0.01
CbC: Cedarcreek-----	85	Very limited Seepage Too acid Cobble content Depth to saturated zone Too steep for surface application	1.00 1.00 1.00 1.00 0.22	Very limited Depth to saturated zone Slope Cobble content Slow water movement Too acid	1.00 1.00 1.00 0.31 0.14	Very limited Too acid Too steep for surface application Cobble content Depth to saturated zone Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00 0.22
CbD: Cedarcreek-----	85	Very limited Seepage Too steep for surface application Too acid Cobble content Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cobble content Slow water movement Too acid	1.00 1.00 1.00 0.31 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content Depth to saturated zone	1.00 1.00 1.00 1.00 1.00
CbE: Cedarcreek-----	80	Very limited Seepage Too steep for surface application Too acid Cobble content	1.00 1.00 1.00 1.00	Very limited Slope Cobble content Slow water movement Too acid	1.00 1.00 0.31 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content Filtering capacity	1.00 1.00 1.00 1.00 0.01
CcA: Chenango-----	80	Very limited Seepage Cobble content Too acid	1.00 0.75 0.42	Very limited Cobble content Slow water movement	1.00 0.61	Very limited Filtering capacity Too acid	1.00 0.42

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcB: Chenango-----	80	Very limited Seepage Cobble content Too acid	1.00 0.75 0.42	Very limited Cobble content Slow water movement Slope	1.00 0.61 0.50	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.68 0.42
CdB: Clymer-----	80	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Somewhat limited Too steep for surface application Depth to bedrock Too acid Filtering capacity	0.68 0.42 0.21 0.01
CdD: Clymer-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.42 0.21	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.21 0.01
CeA: Clymer-----	80	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.21	Somewhat limited Depth to bedrock Too acid Filtering capacity	0.42 0.21 0.01
CeB: Clymer-----	75	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Somewhat limited Too steep for surface application Depth to bedrock Too acid Filtering capacity	0.68 0.42 0.21 0.01
CeC: Clymer-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.42 0.21	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CfB: Clymer-----	70	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.21	Somewhat limited Depth to bedrock Too acid Too steep for surface application Filtering capacity	0.42 0.21 0.08 0.01
CgB: Clymer-----	40	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.21	Somewhat limited Depth to bedrock Too acid Too steep for surface application Filtering capacity	0.42 0.21 0.08 0.01
Cookport-----	35	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 1.00 0.14	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too acid Depth to bedrock Too steep for surface application	1.00 1.00 0.14 0.08
ChB: Clymer-----	50	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.21	Somewhat limited Depth to bedrock Too acid Too steep for surface application Filtering capacity	0.42 0.21 0.08 0.01
Hazleton-----	35	Very limited Seepage Too acid Depth to bedrock	1.00 1.00 0.01	Very limited Depth to bedrock Slow water movement Too acid Cobble content	1.00 0.31 0.21 0.12	Very limited Too acid Large stones on the surface Too steep for surface application Depth to bedrock Filtering capacity	1.00 0.92 0.08 0.01 0.01
CmA: Comly-----	80	Very limited Seepage Depth to saturated zone Too acid Cobble content	1.00 1.00 0.42 0.01	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Slow water movement	1.00 0.42 0.21

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Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CmB: Comly-----	80	Very limited Seepage Depth to saturated zone Too acid Cobble content	1.00 1.00 0.42 0.01	Very limited Slow water movement Depth to saturated zone Depth to bedrock Slope	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Too steep for surface application Too acid Slow water movement	1.00 0.68 0.42 0.21
CmC: Comly-----	80	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid Cobble content	1.00 1.00 1.00 0.42 0.01	Very limited Slope Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 1.00 0.42 0.21
CnB: Cookport-----	80	Very limited Seepage Depth to noncemented pan Too acid Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Slow water movement Depth to bedrock Depth to noncemented pan Depth to saturated zone Too acid	1.00 1.00 1.00 1.00 1.00 0.14	Very limited Depth to noncemented pan Too acid Depth to saturated zone Slow water movement Too steep for surface application	1.00 1.00 1.00 0.96 0.08
CoA: Cookport-----	80	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 0.21 0.14	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too acid Depth to bedrock	1.00 0.21 0.14
CoB: Cookport-----	80	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 1.00 0.61	Very limited Depth to saturated zone Depth to bedrock Slow water movement Slope Too acid	1.00 1.00 1.00 1.00 0.50 0.14	Very limited Depth to saturated zone Too acid Too steep for surface application Depth to bedrock	1.00 1.00 0.68 0.61

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CpB: Cookport-----	70	Very limited Seepage Depth to saturated zone Depth to noncemented pan Too acid Depth to bedrock	1.00 1.00 1.00 1.00 1.00 0.77	Very limited Slow water movement Depth to saturated zone Depth to bedrock Depth to noncemented pan Too acid	1.00 1.00 1.00 1.00 1.00 0.14	Very limited Depth to saturated zone Depth to noncemented pan Too acid Slow water movement Depth to bedrock	1.00 1.00 1.00 0.96 0.77
CpD: Cookport-----	75	Very limited Seepage Depth to saturated zone Depth to noncemented pan Too steep for surface application Too acid	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Slope Slow water movement Depth to saturated zone Depth to bedrock Depth to noncemented pan	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Depth to noncemented pan Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Cr: Craigs ville-----	75	Very limited Seepage Too acid Stone content Flooding	1.00 0.77 0.48 0.40	Somewhat limited Stone content	0.70	Very limited Filtering capacity Too acid	1.00 0.77
Fr: Freetown-----	85	Very limited Seepage Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.61 0.21	Very limited Ponding Depth to saturated zone Too acid	1.00 1.00 1.00
GpB: Gilpin-----	75	Very limited Seepage Depth to bedrock Too acid	1.00 1.00 0.77	Very limited Depth to bedrock Slow water movement Too acid Slope	1.00 1.00 0.21 0.12	Very limited Depth to bedrock Too acid Too steep for surface application	1.00 0.77 0.32
GpC: Gilpin-----	75	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 0.77

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GwD: Gilpin-----	50	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.77	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 0.77
Wharton-----	30	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 1.00	Very limited Slope Slow water movement Depth to saturated zone Too acid Cobble content	1.00 1.00 1.00 0.21 0.01	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 1.00 1.00 0.43
HeA: Hagerstown-----	75	Very limited Seepage Depth to bedrock Too acid	1.00 0.88 0.21	Very limited Depth to bedrock Slow water movement	1.00 1.00	Somewhat limited Depth to bedrock Too acid Filtering capacity	0.88 0.21 0.01
HeB: Hagerstown-----	75	Very limited Seepage Depth to bedrock Too acid	1.00 0.88 0.21	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.50	Somewhat limited Depth to bedrock Too steep for surface application Too acid Filtering capacity	0.88 0.68 0.21 0.01
HeC: Hagerstown-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.88 0.21	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.88 0.21 0.01
HfB: Hagerstown-----	80	Very limited Seepage Depth to bedrock Too acid	1.00 0.88 0.21	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.50	Somewhat limited Depth to bedrock Too steep for surface application Too acid Filtering capacity	0.88 0.68 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HgC: Hagerstown-----	60	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.96 0.21	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 1.00 0.96 0.21
Opequon-----	30	Very limited Depth to bedrock Too steep for surface application Seepage Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01
HhA: Hartleton-----	80	Very limited Seepage Cobble content Too acid Depth to bedrock	1.00 1.00 0.77 0.61	Very limited Depth to bedrock Cobble content Slow water movement	1.00 1.00 0.61	Somewhat limited Too acid Depth to bedrock	0.77 0.61
HhB: Hartleton-----	80	Very limited Seepage Cobble content Too acid Depth to bedrock	1.00 1.00 0.77 0.61	Very limited Depth to bedrock Cobble content Slow water movement Slope	1.00 1.00 0.61 0.50	Somewhat limited Too acid Too steep for surface application Depth to bedrock	0.77 0.68 0.61
HhC: Hartleton-----	80	Very limited Seepage Cobble content Too steep for surface application Too acid Depth to bedrock	1.00 1.00 1.00 0.77 0.61	Very limited Slope Depth to bedrock Cobble content Slow water movement	1.00 1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to bedrock	1.00 1.00 1.00 0.77 0.61
HjC: Hazleton-----	75	Very limited Seepage Too acid Too steep for surface application Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HkE: Hazleton-----	80	Very limited Seepage Too steep for surface application Too acid Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01
HLB: Clymer-----	40	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Slope Too acid	1.00 1.00 0.50 0.21	Somewhat limited Too steep for surface application Depth to bedrock Too acid Filtering capacity	0.68 0.42 0.21 0.01
Hazleton-----	40	Very limited Seepage Too acid Depth to bedrock	1.00 1.00 0.01	Very limited Depth to bedrock Slope Slow water movement Too acid Cobble content	1.00 0.50 0.31 0.21 0.12	Very limited Too acid Large stones on the surface Too steep for surface application Depth to bedrock Filtering capacity	1.00 0.92 0.68 0.01 0.01
HLC: Clymer-----	40	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.42 0.21	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.21 0.01
Hazleton-----	40	Very limited Seepage Too acid Too steep for surface application Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
H1D: Clymer-----	40	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.42 0.21	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.21 0.01
Hazleton-----	40	Very limited Seepage Too steep for surface application Too acid Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01
HmB: Hazleton-----	45	Very limited Seepage Too acid Depth to bedrock	1.00 1.00 0.01	Very limited Depth to bedrock Slow water movement Too acid Cobble content	1.00 0.31 0.21 0.12	Very limited Too acid Large stones on the surface Too steep for surface application Depth to bedrock Filtering capacity	1.00 0.92 0.08 0.01 0.01
Clymer-----	40	Very limited Seepage Depth to bedrock Too acid	1.00 0.42 0.21	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.21	Somewhat limited Depth to bedrock Too acid Too steep for surface application Filtering capacity	0.42 0.21 0.08 0.01
Hazleton-----	50	Very limited Seepage Too acid Too steep for surface application Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HmD: Clymer-----	30	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.42 0.21	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.21 0.01
HoF: Hazleton-----	35	Very limited Seepage Too steep for surface application Too acid Depth to bedrock	1.00 1.00 1.00 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid Cobble content	1.00 1.00 0.31 0.21 0.12	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Large stones on the surface Depth to bedrock	1.00 1.00 1.00 1.00 0.92 0.01
Laidig-----	35	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone Stone content	1.00 1.00 1.00 0.37 0.02	Very limited Slope Depth to saturated zone Slow water movement Too acid Stone content	1.00 1.00 0.61 0.21 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Large stones on the surface Depth to saturated zone	1.00 1.00 1.00 1.00 0.37
HuB: Hustontown-----	75	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.67	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.50	Very limited Depth to saturated zone Too steep for surface application Too acid	1.00 0.68 0.67
HuC: Hustontown-----	80	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.67	Very limited Slope Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 0.67

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HuD: Hustontown-----	75	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 0.67	Very limited Slope Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 0.67
KcD: Klinesville-----	80	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 1.00 0.91 0.01
KcE: Klinesville-----	80	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 1.00 0.91 0.01
KrA: Kreamer-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.42	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slow water movement Too acid	1.00 0.96 0.42
LaB: Laidig-----	80	Very limited Seepage Too acid Depth to saturated zone Stone content	1.00 1.00 0.37 0.02	Very limited Depth to saturated zone Slow water movement Slope Too acid Stone content	1.00 0.61 0.50 0.21 0.02	Very limited Too acid Large stones on the surface Too steep for surface application Depth to saturated zone Cobble content	1.00 1.00 0.68 0.37 0.12

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LaC: Laidig-----	80	Very limited Seepage Too acid Too steep for surface application Depth to saturated zone Stone content	1.00 1.00 1.00 0.37 0.02	Very limited Slope Depth to saturated zone Slow water movement Too acid Stone content	1.00 1.00 0.61 0.21 0.02	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface Depth to saturated zone	1.00 1.00 1.00 1.00 1.00 0.37
LaD: Laidig-----	80	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone Stone content	1.00 1.00 1.00 0.37 0.02	Very limited Slope Depth to saturated zone Slow water movement Too acid Stone content	1.00 1.00 0.61 0.21 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Large stones on the surface Depth to saturated zone	1.00 1.00 1.00 1.00 1.00 0.37
LdB: Laidig-----	80	Very limited Seepage Too acid Depth to saturated zone Stone content	1.00 1.00 0.37 0.02	Very limited Depth to saturated zone Slow water movement Too acid Stone content	1.00 0.61 0.21 0.02	Very limited Too acid Large stones on the surface Depth to saturated zone Cobble content Too steep for surface application	1.00 1.00 0.37 0.12 0.08
LdC: Laidig-----	75	Very limited Seepage Too acid Too steep for surface application Depth to saturated zone Stone content	1.00 1.00 1.00 0.37 0.02	Very limited Slope Depth to saturated zone Slow water movement Too acid Stone content	1.00 1.00 0.61 0.21 0.02	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface Depth to saturated zone	1.00 1.00 1.00 1.00 1.00 0.37
LkB: Leck Kill-----	80	Very limited Seepage Depth to bedrock Too acid	1.00 0.96 0.91	Very limited Depth to bedrock Slow water movement Slope	1.00 0.61 0.50	Somewhat limited Depth to bedrock Too acid Too steep for surface application	0.96 0.91 0.68

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkC: Leck Kill-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.96 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 1.00 0.96 0.91
LkD: Leck Kill-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.96 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 1.00 0.96 0.91
LkE: Leck Kill-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.96 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 1.00 0.96 0.91
LmD: Leck Kill-----	80	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.96 0.91	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 1.00 0.96 0.91
LnB: Leetonia-----	75	Very limited Seepage Too acid Depth to bedrock Cobble content	1.00 1.00 0.61 0.59	Very limited Depth to bedrock Cobble content Too acid Slow water movement	1.00 0.65 0.42 0.31	Very limited Filtering capacity Too acid Large stones on the surface Depth to bedrock Cobble content	1.00 1.00 1.00 1.00 0.61 0.12

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LnC: Leetonia-----	80	Very limited Seepage Too acid Too steep for surface application Depth to bedrock Cobble content	1.00 1.00 1.00 0.61 0.59	Very limited Slope Depth to bedrock Cobble content Too acid Slow water movement	1.00 1.00 0.65 0.42 0.31	Very limited Filtering capacity Too steep for surface application Too acid Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 1.00 1.00 1.00
Lo: Linden-----	75	Very limited Flooding Seepage Too acid	1.00 1.00 0.42	Very limited Depth to saturated zone Depth to bedrock Flooding Slow water movement Too acid	1.00 1.00 0.60 0.31 0.03	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.42
Lr: Linden-----	80	Very limited Seepage Too acid Flooding	1.00 0.42 0.40	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 0.31 0.03	Very limited Filtering capacity Too acid	1.00 0.42
MeB: Meckesville-----	80	Very limited Seepage Too acid Depth to saturated zone	1.00 1.00 0.46	Very limited Depth to saturated zone Slow water movement Slope Too acid	1.00 1.00 1.00 0.50 0.21	Very limited Too acid Too steep for surface application Depth to saturated zone	1.00 0.68 0.46
MeC: Meckesville-----	80	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone	1.00 1.00 1.00 0.46	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to saturated zone	1.00 1.00 1.00 1.00 0.46
MeD: Meckesville-----	80	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone	1.00 1.00 1.00 0.46	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to saturated zone	1.00 1.00 1.00 1.00 0.46

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MhD: Meckesville-----	80	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone	1.00 1.00 1.00 0.46	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to saturated zone	1.00 1.00 1.00 1.00 0.46
Mn: Melvin-----	40	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 0.14	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.14
Newark-----	40	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 0.14	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.14
MoB: Morrison-----	80	Very limited Seepage Too acid Low adsorption	1.00 0.67 0.41	Somewhat limited Slow water movement Slope	0.61 0.50	Somewhat limited Too steep for surface application Too acid Low adsorption	0.68 0.67 0.41
MoC: Morrison-----	80	Very limited Seepage Too steep for surface application Too acid Low adsorption	1.00 1.00 0.67 0.41	Very limited Slope Slow water movement	1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	1.00 1.00 0.67 0.41
MuA: Murrill-----	80	Very limited Seepage Too acid	1.00 0.21	Very limited Slow water movement	1.00	Somewhat limited Too acid	0.21
MuB: Murrill-----	75	Very limited Seepage Too acid	1.00 0.21	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Too acid	0.68 0.21

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MuC: Murrill-----	75	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.21	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 0.21
MuD: Murrill-----	80	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.21	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 0.21
NoA: Nolo-----	80	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 1.00 0.88	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.42	Very limited Depth to saturated zone Large stones on the surface Too acid Depth to bedrock	1.00 1.00 1.00 0.88
NsA: Nolo-----	80	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 1.00 0.88	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.42	Very limited Depth to saturated zone Large stones on the surface Too acid Depth to bedrock	1.00 1.00 1.00 0.88
OeE: Opequon-----	80	Very limited Depth to bedrock Too steep for surface application Seepage Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01
OhD: Opequon-----	70	Very limited Depth to bedrock Too steep for surface application Seepage Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OhD: Hagerstown-----	20	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.88 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 0.88 0.42
OsD: Opequon-----	70	Very limited Depth to bedrock Too steep for surface application Seepage Too acid	1.00 1.00 1.00 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 1.00 0.42 0.01
Hagerstown-----	20	Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 0.88 0.42	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Too acid	1.00 1.00 0.88 0.42
PaE: Pennval-----	80	Very limited Too steep for surface application Seepage Too acid	1.00 1.00 0.96	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 0.96 0.44
Pb: Philo-----	75	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.21 0.01
Pc: Philo-----	45	Very limited Flooding Seepage Depth to saturated zone Too acid	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Too acid Filtering capacity	1.00 0.60 0.21 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pc: Linden-----	40	Very limited Flooding Seepage Too acid	1.00 1.00 0.42	Very limited Depth to saturated zone Depth to bedrock Flooding Slow water movement Too acid	1.00 1.00 0.60 0.31 0.03	Very limited Filtering capacity Flooding Too acid	1.00 0.60 0.42
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Flooding Seepage Too acid Cobble content	1.00 1.00 0.77 0.36	Very limited Flooding Cobble content Slow water movement	1.00 0.41 0.32	Very limited Flooding Filtering capacity Too acid	1.00 1.00 0.77
Pu: Purdy-----	80	Very limited Depth to saturated zone Too acid Seepage	1.00 1.00 0.69	Very limited Slow water movement Depth to saturated zone Too acid	1.00 1.00 0.14	Very limited Depth to saturated zone Too acid Slow water movement	1.00 1.00 0.99
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.14	Very limited Depth to saturated zone Too acid	1.00 1.00
TaB: Tilsit-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Too acid Slope	1.00 1.00 0.14 0.12	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 0.32

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TaC: Tilsit-----	80	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	1.00 1.00 1.00 1.00	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.14	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
TmA: Timberville-----	80	Very limited Seepage Flooding Too acid	1.00 0.40 0.21	Very limited Slow water movement	1.00	Somewhat limited Too acid Filtering capacity	0.21 0.01
TmB: Timberville-----	80	Very limited Seepage Too acid	1.00 0.21	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Too acid Filtering capacity	0.68 0.21 0.01
UnB: Ungers-----	75	Very limited Seepage Too acid Depth to bedrock	1.00 0.96 0.61	Very limited Depth to bedrock Slow water movement Slope Too acid	1.00 1.00 0.50 0.14	Somewhat limited Too acid Too steep for surface application Depth to bedrock Low adsorption	0.96 0.68 0.61 0.01
UnC: Ungers-----	80	Very limited Seepage Too steep for surface application Too acid Depth to bedrock	1.00 1.00 0.96 0.61	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to bedrock	1.00 1.00 1.00 0.96 0.61
UoB: Ungers-----	85	Very limited Seepage Too acid Depth to bedrock Low adsorption	1.00 0.96 0.61 0.01	Very limited Depth to bedrock Slow water movement Too acid	1.00 1.00 0.14	Very limited Large stones on the surface Too acid Depth to bedrock Too steep for surface application Low adsorption	1.00 0.96 0.61 0.08 0.01

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UoC: Ungers-----	80	Very limited Seepage Too steep for surface application Too acid Depth to bedrock Low adsorption	1.00 1.00 0.96 0.61 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface Too acid Depth to bedrock	1.00 1.00 1.00 1.00 0.96 0.61
UoE: Ungers-----	80	Very limited Seepage Too steep for surface application Too acid Depth to bedrock Low adsorption	1.00 1.00 0.96 0.61 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface Too acid Depth to bedrock	1.00 1.00 1.00 1.00 0.96 0.61
UpF: Ungers-----	50	Very limited Seepage Too steep for surface application Too acid Depth to bedrock Low adsorption	1.00 1.00 0.96 0.61 0.01	Very limited Slope Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface Too acid Depth to bedrock	1.00 1.00 1.00 1.00 0.96 0.61
Meckesville-----	30	Very limited Seepage Too steep for surface application Too acid Depth to saturated zone	1.00 1.00 1.00 0.24	Very limited Slope Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.21	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to saturated zone	1.00 1.00 1.00 1.00 0.24
UrC: Urban land-----	70	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UrC: Berks-----	20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 0.50 0.42	Very limited Depth to bedrock Slope Slow water movement Too acid Cobble content	1.00 1.00 0.61 0.21 0.02	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Filtering capacity	1.00 1.00 0.50 0.42 0.01
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Seepage Depth to saturated zone Too acid Cobble content	1.00 1.00 0.42 0.01	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 1.00	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	1.00 0.42 0.21 0.08
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid Cobble content	1.00 1.00 1.00 0.42 0.01	Very limited Slope Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 1.00 0.42 0.21
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Very limited Seepage Too acid Flooding	1.00 0.42 0.20	Very limited Depth to saturated zone Slow water movement Too acid	1.00 0.31 0.03	Very limited Filtering capacity Too acid	1.00 0.42
WaA: Watson-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 0.77	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Too acid	1.00 0.77

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbB: Wharton-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone Depth to bedrock Too acid Slope	1.00 1.00 1.00 1.00 0.21 0.12	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	1.00 1.00 0.43 0.32
WbC: Wharton-----	80	Very limited Seepage Depth to saturated zone Too acid Too steep for surface application	1.00 1.00 1.00 1.00	Very limited Slope Slow water movement Depth to saturated zone Depth to bedrock Too acid	1.00 1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too steep for surface application Too acid Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 1.00 0.43
WeB: Wharton-----	80	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone Depth to bedrock Too acid Cobble content	1.00 1.00 1.00 1.00 0.21 0.01	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	1.00 1.00 0.43 0.08
WgB: Wharton-----	50	Very limited Seepage Depth to saturated zone Too acid	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone Depth to bedrock Too acid Cobble content	1.00 1.00 1.00 1.00 0.21 0.01	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	1.00 1.00 0.43 0.08
Cookport-----	30	Very limited Seepage Depth to saturated zone Too acid Depth to bedrock	1.00 1.00 0.21 0.14	Very limited Depth to saturated zone Depth to bedrock Slow water movement Too acid	1.00 1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Too acid Depth to bedrock Too steep for surface application	1.00 0.21 0.14 0.08
WhA: Wheeling-----	80	Very limited Seepage Too acid	1.00 0.42	Very limited Slow water movement	1.00	Very limited Filtering capacity Too acid	1.00 0.42

Soil Survey of Clinton County, Pennsylvania

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WyA: Wyoming-----	85	Very limited Seepage Too acid	1.00 1.00	Somewhat limited Too acid	0.03	Very limited Filtering capacity Too acid	1.00 1.00
WyB: Wyoming-----	85	Very limited Seepage Too acid	1.00 1.00	Somewhat limited Slope Too acid	0.50 0.03	Very limited Filtering capacity Too acid Too steep for surface application	1.00 1.00 0.68
ZoA: Zoar-----	80	Very limited Seepage Too acid Depth to saturated zone	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Too acid Depth to saturated zone Slow water movement	1.00 1.00 0.96

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
AeB: Aeric Epiaquents-----	---	---	---	Eastern white pine, Japanese larch, yellow-poplar
AfD: Allegheny-----	American elm----- Black oak----- Northern red oak---- Pignut hickory----- Red maple----- Sugar maple----- Virginia pine----- White ash----- Yellow-poplar-----	--- 78 --- --- --- --- 72 --- 93	--- 57 --- --- --- --- 114 --- 100	Black walnut, eastern white pine, northern red oak, white ash, white oak, yellow- poplar
AgB: Allenwood-----	Northern red oak---- Red maple----- White ash----- Yellow-poplar-----	80 --- --- 85	57 --- --- 86	Eastern white pine, white spruce, yellow-poplar
AgC: Allenwood-----	Northern red oak---- Yellow-poplar-----	80 85	57 86	Eastern white pine, white spruce, yellow-poplar
AgD: Allenwood-----	Northern red oak---- Yellow-poplar-----	80 85	57 86	Eastern white pine, white spruce, yellow-poplar
At: Atkins-----	American sycamore--- Pin oak----- Red maple----- Silver maple-----	--- 100 --- ---	--- 57 --- ---	Eastern white pine, river birch, silver maple, white spruce
Ba: Barbour-----	American sycamore--- Black walnut----- Northern red oak---- Sugar maple-----	--- --- 80 70	--- --- 57 43	Black walnut, eastern white pine, northern red oak, white spruce
Bb: Barbour-----	American sycamore--- Black walnut----- Northern red oak---- Sugar maple-----	--- --- 80 70	--- --- 57 43	Black walnut, eastern white pine, northern red oak, white spruce
Craigsville-----	American sycamore--- Black walnut----- Northern red oak---- Sugar maple-----	--- --- 80 70	--- --- 57 43	Black walnut, eastern white pine, northern red oak, white spruce
Bc: Basher-----	American basswood--- Black walnut----- Northern red oak---- Sugar maple-----	85 --- 80 70	57 --- 57 43	Black walnut, eastern white pine, white spruce

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
BeB:				
Berks -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
BeC:				
Berks -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
BeD:				
Berks -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
Weikert -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
BeE:				
Berks -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
Weikert -----	Black locust-----	---	---	Black locust, eastern white pine, Japanese larch, red pine, white spruce
	Black oak-----	70	57	
	Eastern white pine--	---	---	
	Northern red oak----	70	57	
	Virginia pine-----	70	114	
BgA:				
Brinkerton -----	Northern red oak----	66	43	Eastern white pine, red maple, white spruce
	Red maple-----	---	---	
	Slippery elm-----	---	---	
BhB:				
Buchanan -----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
BhD:				
Buchanan -----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
BmB: Buchanan-----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
BmC: Buchanan-----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
BuB: Buchanan-----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
Andover -----	Northern red oak----	75	57	Eastern white pine, red maple, white spruce
	Yellow-poplar-----	83	72	
BuC: Buchanan-----	Northern red oak----	66	43	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
Andover -----	Northern red oak----	75	57	Eastern white pine, red maple, white spruce
	Yellow-poplar-----	83	72	
BxB: Buchanan-----	Northern red oak----	66	57	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
Andover -----	Northern red oak----	70	57	Eastern white pine, red maple, white spruce
	Yellow-poplar-----	75	72	
BxC: Buchanan-----	Northern red oak----	66	57	Eastern white pine, Japanese larch, northern red oak, sugar maple, white spruce, yellow- poplar
	Yellow-poplar-----	91	72	
Andover -----	Northern red oak----	70	57	Eastern white pine, red maple, white spruce
	Yellow-poplar-----	75	72	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
CaB: Calvin-----	Black locust----- Eastern white pine-- Northern red oak---- Virginia pine-----	--- --- 71 70	--- --- 57 114	Black locust, eastern white pine, red pine, white spruce
CaC: Calvin-----	Black locust----- Eastern white pine-- Northern red oak---- Virginia pine-----	--- --- 71 70	--- --- 57 114	Black locust, eastern white pine, red pine, white spruce
CbC: Cedarcreek-----	Black locust----- Eastern white pine-- Quaking aspen-----	--- 94 ---	--- 174 ---	Black locust, Japanese larch, red pine
CbD: Cedarcreek-----	Black locust----- Eastern white pine-- Quaking aspen-----	--- 94 ---	--- 174 ---	Black locust, Japanese larch, red pine
CbE: Cedarcreek-----	Black locust----- Eastern white pine-- Quaking aspen-----	--- 94 ---	--- 174 ---	Black locust, Japanese larch, red pine
CcA: Chenango-----	Northern red oak---- Sugar maple-----	80 70	57 43	Eastern white pine, European larch, red pine
CcB: Chenango-----	Northern red oak---- Sugar maple-----	80 70	57 43	Eastern white pine, European larch, red pine
CdB: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
CdD: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
CeA: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
CeB: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
CeC: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
CfB: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- 77 90	143 57 --- 57 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
CgB: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- --- 90	143 57 --- --- 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
Cookport-----	Black cherry----- Northern red oak---- Red maple----- Sugar maple----- White ash----- Yellow-poplar-----	86 76 --- 80 86 90	57 57 --- 57 57 86	Eastern white pine, northern red oak, white spruce, yellow-poplar
ChB: Clymer-----	Eastern white pine-- Northern red oak---- Red maple----- White oak----- Yellow-poplar-----	90 77 --- --- 90	143 57 --- --- 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
Hazleton-----	Chestnut oak----- Northern red oak---- Red maple----- Yellow-poplar-----	70 70 --- 80	57 57 --- 72	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
CmA: Comly-----	Northern red oak---- Quaking aspen----- Red maple----- Sugar maple----- White ash-----	70 --- --- 70 65	57 --- --- 43 43	Eastern white pine, white spruce
CmB: Comly-----	Northern red oak---- Quaking aspen----- Red maple----- Sugar maple----- White ash-----	70 --- --- 70 65	57 --- --- 43 43	Eastern white pine, white spruce, yellow-poplar

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
CmC:				
Comly-----	Northern red oak----	70	57	Eastern white pine, white spruce, yellow-poplar
	Quaking aspen-----	---	---	
	Red maple-----	---	---	
	Sugar maple-----	70	43	
	White ash-----	65	43	
CnB:				
Cookport-----	Black cherry-----	86	57	Black cherry, eastern white pine, Japanese larch, Norway spruce, yellow-poplar
	Northern red oak----	76	57	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
CoA:				
Cookport-----	Black cherry-----	86	57	Black cherry, eastern white pine, white spruce, yellow-poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
CoB:				
Cookport-----	Black cherry-----	86	57	Black cherry, eastern white pine, Japanese larch, Norway spruce, yellow-poplar
	Northern red oak----	76	57	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
CpB:				
Cookport-----	Black cherry-----	86	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar
	Northern red oak----	76	57	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
CpD:				
Cookport-----	Black cherry-----	86	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar
	Northern red oak----	76	57	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
Cr:				
Craigsville-----	American sycamore---	---	---	Black walnut, eastern white pine, northern red oak, white spruce
	Black walnut-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	---	---	
Fr:				
Freetown-----	American elm-----	55	---	Balsam fir, eastern hemlock, white spruce
	Atlantic white cedar	60	---	
	Balsam fir-----	45	86	
	Eastern hemlock----	55	---	
	Green ash-----	35	29	
	Red maple-----	50	29	
	Red spruce-----	50	114	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
GpB: Gilpin-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 80 --- 80	--- 57 --- 57	Eastern white pine, Japanese larch, northern red oak
GpC: Gilpin-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 80 --- 80	--- 57 --- 57	Eastern white pine, Japanese larch, northern red oak
GwD: Gilpin-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 80 --- 80	--- 57 --- 57	Eastern white pine, Japanese larch, northern red oak
Wharton-----	Black cherry----- Northern red oak---- Red maple----- Sugar maple----- White ash----- Yellow-poplar-----	90 --- --- --- --- 76	57 --- --- --- --- 72	Black cherry, eastern white pine, white spruce, yellow- poplar
HeA: Hagerstown-----	Basswood----- Hickory----- Northern red oak---- White oak----- Yellow-poplar-----	--- --- 85 --- 95	--- --- 72 --- 100	Black walnut, eastern white pine, white oak, white spruce, yellow-poplar
HeB: Hagerstown-----	Basswood----- Hickory----- Northern red oak---- White oak----- Yellow-poplar-----	--- --- 85 --- 95	--- --- 72 --- 100	Black walnut, eastern white pine, white oak, white spruce, yellow-poplar
HeC: Hagerstown-----	Basswood----- Hickory----- Northern red oak---- White oak----- Yellow-poplar-----	--- --- 85 --- 95	--- --- 72 --- 100	Black walnut, eastern white pine, white oak, white spruce, yellow-poplar
HfB: Hagerstown-----	Basswood----- Hickory----- Northern red oak---- White oak----- Yellow-poplar-----	--- --- 85 --- 95	--- --- 72 --- 100	Black walnut, eastern white pine, white oak, white spruce, yellow-poplar
HgC: Hagerstown-----	Basswood----- Hickory----- Northern red oak---- Virginia pine----- White oak----- Yellow-poplar-----	--- --- 85 70 70 95	--- --- 72 114 57 100	Black walnut, eastern white pine, white oak, white spruce, yellow-poplar

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
HgC: Opequon-----	Black cherry----- Northern red oak---- Sugar maple----- White oak-----	--- 60 --- 60	--- 43 --- 43	Eastern white pine, sugar maple
HhA: Hartleton-----	Chestnut oak----- Eastern white pine-- Northern red oak---- Red maple----- Virginia pine-----	70 70 70 --- 70	57 129 57 --- 114	Eastern white pine, red pine, white spruce
HhB: Hartleton-----	Chestnut oak----- Eastern white pine-- Northern red oak---- Red maple----- Virginia pine-----	70 70 70 --- 70	57 129 57 --- 114	Eastern white pine, red pine, white spruce
HhC: Hartleton-----	Chestnut oak----- Eastern white pine-- Northern red oak---- Red maple----- Virginia pine-----	70 70 70 --- 70	57 129 57 --- 114	Eastern white pine, red pine, white spruce
HjC: Hazleton-----	Chestnut oak----- Northern red oak---- Red maple----- Yellow-poplar-----	70 70 --- 80	57 57 --- 72	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
HkE: Hazleton-----	Chestnut oak----- Northern red oak---- Red maple-----	70 70 ---	57 57 ---	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
HlB: Clymer-----	Chestnut oak----- Eastern white pine-- Northern red oak---- Red maple----- Yellow-poplar-----	77 90 77 --- 90	57 143 57 --- 86	Black cherry, eastern white pine, northern red oak, yellow-poplar
Hazleton-----	Chestnut oak----- Northern red oak---- Red maple----- Yellow-poplar-----	70 70 --- 80	57 57 --- 72	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
H1C:				
Clymer-----	Chestnut oak-----	77	57	Black cherry, eastern white pine, northern red oak, yellow-poplar
	Eastern white pine--	90	143	
	Northern red oak----	77	57	
	Red maple-----	---	---	
	Yellow-poplar-----	90	86	
Hazleton-----	Chestnut oak-----	70	57	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
	Northern red oak----	70	57	
	Red maple-----	---	---	
	Yellow-poplar-----	80	72	
H1D:				
Clymer-----	Chestnut oak-----	83	57	Black cherry, eastern white pine, yellow- poplar
	Eastern white pine--	---	---	
	Northern red oak----	83	57	
	Red maple-----	---	---	
	Yellow-poplar-----	95	100	
Hazleton-----	Chestnut oak-----	70	57	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
	Northern red oak----	70	57	
	Red maple-----	---	---	
	Yellow-poplar-----	80	72	
HmB:				
Hazleton-----	Chestnut oak-----	70	57	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
	Northern red oak----	70	57	
	Red maple-----	---	---	
	Yellow-poplar-----	80	72	
Clymer-----	Beech-----	---	---	
	Hemlock-----	---	---	
	Sugar maple-----	60	43	
HmD:				
Hazleton-----	Chestnut oak-----	70	57	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
	Northern red oak----	70	57	
	Red maple-----	---	---	
	Yellow-poplar-----	80	72	
Clymer-----	Beech-----	---	---	
	Hemlock-----	---	---	
	Sugar maple-----	60	43	
HoF:				
Hazleton-----	Chestnut oak-----	70	57	Austrian pine, black cherry, eastern white pine, Japanese larch, white spruce
	Northern red oak----	70	57	
	Red maple-----	---	---	
	Yellow-poplar-----	80	72	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
HoF:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	---	
	Hickory-----	---	---	
	Northern red oak----	80	72	
	Sugar maple-----	80	---	
	White ash-----	80	---	
	White oak-----	80	72	
	Yellow-poplar-----	90	86	
HuB:				
Hustontown-----	Northern red oak----	70	57	Eastern white pine, Japanese larch, Norway spruce, red pine, white spruce
	Red maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	75	57	
HuC:				
Hustontown-----	Northern red oak----	70	57	Eastern white pine, Japanese larch, Norway spruce, red pine, white spruce
	Red maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	75	57	
HuD:				
Hustontown-----	Northern red oak----	70	57	Eastern white pine, Japanese larch, red pine, white spruce
	Red maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	75	57	
KcD:				
Klinesville-----	Northern red oak----	60	43	Eastern white pine, pitch pine, red pine
	Quaking aspen-----	---	---	
	Virginia pine-----	60	86	
KcE:				
Klinesville-----	Northern red oak----	60	43	Eastern white pine, pitch pine, red pine
	Virginia pine-----	60	86	
KrA:				
Kreamer-----	Black walnut-----	---	---	Eastern white pine, European larch, Norway spruce, yellow-poplar
	Elm-----	---	---	
	Hickory-----	---	---	
LaB:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	143	
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	80	57	
	White ash-----	80	---	
	White oak-----	80	57	
	Yellow-poplar-----	90	86	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
LaC:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	143	
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	80	57	
	White ash-----	80	---	
	White oak-----	80	57	
	Yellow-poplar-----	90	86	
LaD:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	143	
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	80	57	
	White ash-----	80	---	
	White oak-----	80	57	
	Yellow-poplar-----	90	86	
LdB:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	143	
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	80	57	
	White ash-----	80	57	
	White oak-----	80	57	
	Yellow-poplar-----	90	86	
LdC:				
Laidig-----	Basswood-----	---	---	Black cherry, black locust, black walnut, eastern white pine, white spruce, yellow-poplar
	Black cherry-----	80	57	
	Eastern white pine--	90	143	
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Sugar maple-----	80	57	
	White ash-----	80	57	
	White oak-----	80	57	
	Yellow-poplar-----	90	86	
LkB:				
Leck Kill-----	Northern red oak----	68	50	Eastern white pine, red pine
	Red maple-----	---	---	
LkC:				
Leck Kill-----	Northern red oak----	68	50	Eastern white pine, red pine
	Red maple-----	---	---	
LkD:				
Leck Kill-----	Northern red oak----	68	50	Eastern white pine, red pine
	Red maple-----	---	---	
LkE:				
Leck Kill-----	Northern red oak----	68	50	Eastern white pine, red pine
	Red maple-----	---	---	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
LmD:				
Leck Kill-----	Northern red oak----	68	50	Eastern white pine, red pine
	Red maple-----	---	---	
LnB:				
Leetonia-----	Chestnut oak-----	44	29	Pitch pine, red pine
	Pitch pine-----	---	---	
	Virginia pine-----	50	72	
LnC:				
Leetonia-----	Northern red oak----	44	29	Pitch pine, red pine
	Pitch pine-----	---	---	
	Virginia pine-----	50	72	
Lo:				
Linden-----	Black cherry-----	90	57	Black cherry, black walnut, eastern white pine, red pine, white spruce, yellow- poplar
	Black walnut-----	90	---	
	Eastern white pine--	90	143	
	Northern red oak----	90	57	
	Sugar maple-----	90	57	
	White ash-----	90	57	
	Yellow-poplar-----	100	114	
Lr:				
Linden-----	Black cherry-----	90	57	Black cherry, black walnut, eastern white pine, red pine, white spruce, yellow- poplar
	Black walnut-----	90	---	
	Eastern white pine--	90	143	
	Northern red oak----	90	57	
	Sugar maple-----	90	57	
	White ash-----	90	57	
	Yellow-poplar-----	100	114	
MeB:				
Meckesville-----	Basswood-----	---	---	Black cherry, eastern white pine, northern red oak, white spruce, yellow-poplar
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Yellow-poplar-----	90	86	
MeC:				
Meckesville-----	Basswood-----	---	---	Black cherry, eastern white pine, northern red oak, white spruce, yellow-poplar
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Yellow-poplar-----	90	86	
MeD:				
Meckesville-----	Basswood-----	---	---	Black cherry, eastern white pine, northern red oak, white spruce, yellow-poplar
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Yellow-poplar-----	90	86	
MhD:				
Meckesville-----	Basswood-----	---	---	Black cherry, eastern white pine, northern red oak, white spruce, yellow-poplar
	Hickory-----	---	---	
	Northern red oak----	80	57	
	Yellow-poplar-----	90	86	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
Mn:				
Melvin-----	American elm-----	---	---	American sycamore, pin oak, sweetgum
	Green ash-----	---	---	
	Hickory-----	---	---	
	Pin oak-----	99	100	
	Red maple-----	---	---	
	Sweetgum-----	89	100	
Newark-----	Green ash-----	---	---	American sycamore, pin oak, sweetgum
	Pin oak-----	96	72	
	Sweetgum-----	85	86	
MoB:				
Morrison-----	Hickory-----	---	---	Eastern white pine, red pine, white oak, white spruce
	Northern red oak----	71	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
MoC:				
Morrison-----	Hickory-----	---	---	Eastern white pine, red pine, white oak, white spruce
	Northern red oak----	71	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
MuA:				
Murrill-----	Black walnut-----	---	---	Black walnut, eastern white pine, white spruce, yellow- poplar
	Eastern white pine--	80	143	
	Northern red oak----	72	57	
	White ash-----	70	72	
	Yellow-poplar-----	94	100	
MuB:				
Murrill-----	Black walnut-----	---	---	Black walnut, eastern white pine, white spruce, yellow- poplar
	Eastern white pine--	80	143	
	Northern red oak----	72	57	
	White ash-----	70	72	
	Yellow-poplar-----	94	100	
MuC:				
Murrill-----	Black walnut-----	---	---	Black walnut, eastern white pine, white spruce, yellow- poplar
	Eastern white pine--	80	143	
	Northern red oak----	72	57	
	White ash-----	70	72	
	Yellow-poplar-----	94	100	
MuD:				
Murrill-----	Black walnut-----	---	---	Black walnut, eastern white pine, white spruce, yellow- poplar
	Eastern white pine--	80	143	
	Northern red oak----	72	57	
	White ash-----	70	72	
	Yellow-poplar-----	94	100	
NoA:				
Nolo-----	Blackgum-----	70	43	Eastern white pine, red maple, white spruce
	Pin oak-----	---	---	
	Red maple-----	---	57	
NsA:				
Nolo-----	Blackgum-----	70	43	Eastern white pine, red maple, white spruce
	Pin oak-----	---	---	
	Red maple-----	---	57	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
OeE:				
Opequon-----	Northern red oak----	60	43	Eastern white pine, sugar maple, white oak
	Sugar maple-----	---	---	
	White oak-----	60	43	
OhD:				
Opequon-----	Northern red oak----	60	43	Eastern white pine, sugar maple, white oak
	Sugar maple-----	---	---	
	White oak-----	60	43	
Hagerstown-----	Basswood-----	---	---	Eastern white pine, Virginia pine
	Hickory-----	---	---	
	Northern red oak----	85	114	
	White oak-----	70	57	
	Yellow-poplar-----	95	114	
OsD:				
Opequon-----	Northern red oak----	60	43	Eastern white pine, sugar maple, white oak
	Sugar maple-----	---	---	
	White oak-----	60	43	
Hagerstown-----	Basswood-----	---	---	Eastern white pine, Virginia pine
	Hickory-----	---	---	
	Northern red oak----	85	114	
	White oak-----	70	57	
	Yellow-poplar-----	95	114	
PaE:				
Pennval-----	Northern red oak----	75	57	Black walnut, eastern white pine, Japanese larch, white spruce, yellow-poplar
	Yellow-poplar-----	85	81	
Pb:				
Philo-----	Northern red oak----	86	72	Black walnut, eastern white pine
	White ash-----	85	114	
	White oak-----	85	72	
	Yellow-poplar-----	102	114	
Pc:				
Philo-----	Northern red oak----	86	72	Black walnut, eastern white pine
	White ash-----	85	114	
	White oak-----	85	72	
	Yellow-poplar-----	102	114	
Linden-----	Black cherry-----	90	57	Black cherry, black walnut, eastern white pine, Japanese larch, Norway spruce, red pine, yellow-poplar
	Black walnut-----	90	---	
	Eastern white pine--	90	143	
	Northern red oak----	90	57	
	Sugar maple-----	90	57	
	White ash-----	90	57	
	Yellow-poplar-----	100	114	
Ps:				
Pits-----	---	---	---	---

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
Pt: Potomac-----	American sycamore---	---	---	American sycamore, black walnut, eastern white pine, Japanese larch, northern red oak, white oak
	Black walnut-----	---	---	
	Eastern white pine--	80	86	
	Northern red oak----	70	57	
	Red cedar-----	---	---	
	White oak-----	70	57	
Pu: Purdy-----	Pin oak-----	85	57	Eastern white pine, Virginia pine
	Sweetgum-----	85	86	
	Virginia pine-----	75	114	
	Yellow-poplar-----	90	86	
Qu: Quarry-----	---	---	---	---
RaF: Rock outcrop-----	---	---	---	---
	Rubble land-----	---	---	---
Rb: Rubble land-----	---	---	---	---
TaA: Tilsit-----	Hickory-----	---	---	Eastern white pine, northern red oak, white oak, white spruce, yellow- poplar
	Red maple-----	---	---	
	Scarlet oak-----	74	57	
	Sugar maple-----	---	---	
	White oak-----	68	57	
	Yellow-poplar-----	90	86	
TaB: Tilsit-----	Hickory-----	---	---	Eastern white pine, northern red oak, white oak, white spruce, yellow- poplar
	Red maple-----	---	---	
	Scarlet oak-----	74	57	
	Sugar maple-----	---	---	
	White oak-----	68	57	
	Yellow-poplar-----	90	86	
TaC: Tilsit-----	Hickory-----	---	---	Eastern white pine, northern red oak, white oak, white spruce, yellow- poplar
	Red maple-----	---	---	
	Scarlet oak-----	74	57	
	Sugar maple-----	---	---	
	White oak-----	68	57	
	Yellow-poplar-----	90	86	
TmA: Timberville-----	Black walnut-----	---	---	Black walnut, eastern white pine, yellow- poplar
	Northern red oak----	90	72	
	Yellow-poplar-----	80	72	
TmB: Timberville-----	Black walnut-----	---	---	Black walnut, eastern white pine, yellow- poplar
	Northern red oak----	90	72	
	Yellow-poplar-----	80	72	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
UnB: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 62 --- ---	--- 43 --- ---	Eastern white pine, white spruce
UnC: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 62 --- ---	--- 43 --- ---	Eastern white pine, white spruce
UoB: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 67 --- ---	--- 43 --- ---	Eastern white pine, white spruce
UoC: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 67 --- ---	--- 43 --- ---	Eastern white pine, white spruce
UoE: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 67 --- ---	--- 43 --- ---	Eastern white pine, white spruce
UpF: Ungers-----	Eastern white pine-- Northern red oak---- Red maple----- White oak-----	--- 67 --- ---	--- 43 --- ---	Eastern white pine, white spruce
Meckesville-----	Basswood----- Hickory----- Northern red oak---- Yellow-poplar-----	--- --- 80 90	--- --- 57 86	Black cherry, eastern white pine, northern red oak, white spruce, yellow-poplar
UrC: Urban land-----	---	---	---	---
Berks-----	Black oak----- Eastern white pine-- Northern red oak---- Virginia pine-----	70 --- 70 70	57 --- 57 114	Black locust, eastern white pine, red pine, white spruce
UsB: Urban land-----	---	---	---	---
Comly-----	Northern red oak---- Quaking aspen----- Red maple----- Sugar maple----- White ash-----	70 --- --- 70 65	57 --- --- 43 43	Eastern white pine, white spruce

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
UsC: Urban land-----	---	---	---	---
Comly-----	Northern red oak----	70	57	Eastern white pine, white spruce
	Quaking aspen-----	---	---	
	Red maple-----	---	---	
	Sugar maple-----	70	43	
	White ash-----	65	43	
Ut: Urban land-----	---	---	---	---
Linden-----	Black cherry-----	90	57	Black cherry, black walnut, eastern white pine, red pine, white spruce, yellow- poplar
	Black walnut-----	90	---	
	Eastern white pine--	90	143	
	Northern red oak----	90	57	
	Sugar maple-----	90	57	
	White ash-----	90	57	
	Yellow-poplar-----	100	114	
Waa: Watson-----	Northern red oak----	70	57	Black cherry, eastern white pine, white spruce, yellow- poplar
	Red maple-----	---	---	
	Sugar maple-----	70	43	
	Yellow-poplar-----	80	72	
WbB: Wharton-----	Black cherry-----	---	---	Black cherry, eastern white pine, white spruce, yellow- poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	90	86	
WbC: Wharton-----	Black cherry-----	---	---	Black cherry, eastern white pine, white spruce, yellow- poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	90	86	
WeB: Wharton-----	Black cherry-----	---	---	Black cherry, eastern white pine, white spruce, yellow- poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	90	86	
WgB: Wharton-----	Black cherry-----	---	---	Black cherry, eastern white pine, white spruce, yellow- poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	Yellow-poplar-----	90	86	

Soil Survey of Clinton County, Pennsylvania

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Annual production (CMAI) cu ft/ac	
WgB:				
Cookport-----	Black cherry-----	86	57	Eastern white pine, northern red oak, white spruce, yellow-poplar
	Northern red oak----	76	57	
	Red maple-----	---	---	
	Sugar maple-----	80	57	
	White ash-----	86	57	
	Yellow-poplar-----	90	86	
WhA:				
Wheeling-----	Black walnut-----	---	---	Black walnut, eastern white pine, yellow- poplar
	Northern red oak----	80	57	
	Sugar maple-----	---	---	
	Yellow-poplar-----	90	86	
WyA:				
Wyoming-----	Black walnut-----	---	---	Eastern white pine, red pine
	Northern red oak----	55	57	
	Sugar maple-----	---	---	
	Yellow-poplar-----	90	86	
WyB:				
Wyoming-----	Black walnut-----	---	---	Eastern white pine, red pine
	Northern red oak----	80	57	
	Sugar maple-----	70	43	
	Yellow-poplar-----	90	86	
ZoA:				
Zoar-----	Black oak-----	70	57	Eastern white pine, yellow-poplar
	Eastern white pine--	80	143	
	Northern red oak----	70	57	
	Red maple-----	---	---	
	White oak-----	70	57	

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)

(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
AeB: Aeric Epiaquents---	80	Moderate Restrictive layer	0.50	Moderately suited Slope Wetness	0.50 0.50	Moderate Low strength	0.50
AfD: Allegheny-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
AgB: Allenwood-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
AgC: Allenwood-----	80	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
AgD: Allenwood-----	90	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
At: Atkins-----	75	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Wetness Low strength	1.00 1.00 0.50	Severe Low strength	1.00
Ba: Barbour-----	80	Moderate Flooding Low strength	0.50 0.50	Moderately suited Flooding Low strength	0.50 0.50	Severe Low strength	1.00
Bb: Barbour-----	35	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
Craigsville-----	35	Slight		Moderately suited Low strength	0.50	Severe Low strength	1.00
Bc: Basher-----	80	Moderate Flooding Low strength	0.50 0.50	Moderately suited Flooding Low strength	0.50 0.50	Severe Low strength	1.00
BeB: Berks-----	75	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
BeC: Berks-----	80	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
BeD: Berks-----	45	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Weikert-----	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
BeE: Berks-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Weikert-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
EgA: Brinkerton-----	70	Moderate Low strength	0.50	Poorly suited Wetness Low strength	1.00 0.50	Severe Low strength	1.00
BhB: Buchanan-----	75	Moderate Low strength	0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50	Severe Low strength	1.00
BhD: Buchanan-----	75	Moderate Slope	0.50	Poorly suited Slope Low strength Wetness	1.00 0.50 0.50	Severe Low strength	1.00
BmB: Buchanan-----	80	Moderate Stoniness Low strength	0.50 0.50	Moderately suited Rock fragments Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
BmC: Buchanan-----	75	Moderate Stoniness Low strength	0.50 0.50	Poorly suited Slope Rock fragments Low strength Wetness	1.00 0.50 0.50 0.50	Severe Low strength	1.00
BuB: Buchanan-----	45	Moderate Low strength	0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50	Severe Low strength	1.00
Andover-----	40	Moderate Low strength	0.50	Poorly suited Wetness Low strength Slope	1.00 0.50 0.50	Severe Low strength	1.00
BuC: Buchanan-----	60	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
BuC: Andover-----	30	Moderate Low strength	0.50	Poorly suited Wetness Slope Low strength	1.00 0.50 0.50	Severe Low strength	1.00
BxB: Buchanan-----	45	Moderate Stoniness Low strength	0.50 0.50	Moderately suited Rock fragments Low strength Slope Wetness	0.50 0.50 0.50 0.50	Severe Low strength	1.00
Andover-----	30	Moderate Stoniness Low strength	0.50 0.50	Poorly suited Wetness Rock fragments Low strength Slope	1.00 0.50 0.50 0.50	Severe Low strength	1.00
BxC: Buchanan-----	55	Moderate Stoniness Low strength	0.50 0.50	Poorly suited Slope Rock fragments Low strength Wetness	1.00 0.50 0.50 0.50	Severe Low strength	1.00
Andover-----	20	Moderate Stoniness Low strength	0.50 0.50	Poorly suited Wetness Slope Rock fragments Low strength	1.00 1.00 0.50 0.50	Severe Low strength	1.00
CaB: Calvin-----	75	Slight		Well suited		Slight Strength	0.10
CaC: Calvin-----	75	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
CbC: Cedarcreek-----	85	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Moderate Low strength	0.50
CbD: Cedarcreek-----	85	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
CbE: Cedarcreek-----	80	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Moderate Low strength	0.50
CcA: Chenango-----	80	Slight		Well suited		Slight Strength	0.10

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
CcB: Chenango-----	80	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
CdB: Clymer-----	80	Slight		Moderately suited Slope	0.50	Severe Low strength	1.00
CdD: Clymer-----	80	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Severe Low strength	1.00
CeA: Clymer-----	80	Slight		Well suited		Severe Low strength	1.00
CeB: Clymer-----	75	Slight		Moderately suited Slope	0.50	Severe Low strength	1.00
CeC: Clymer-----	80	Slight		Moderately suited Slope	0.50	Severe Low strength	1.00
CfB: Clymer-----	70	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Severe Low strength	1.00
CgB: Clymer-----	40	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Severe Low strength	1.00
Cookport-----	35	Moderate Stoniness Low strength	0.50 0.50	Moderately suited Wetness Rock fragments Low strength	0.50 0.50 0.50	Severe Low strength	1.00
ChB: Clymer-----	50	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Severe Low strength	1.00
Hazleton-----	35	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Slight Strength	0.10
CmA: Comly-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
CmB: Comly-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50	Severe Low strength	1.00
CmC: Comly-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
CnB: Cookport-----	80	Slight		Well suited		Moderate Low strength	0.50
CoA: Cookport-----	80	Slight		Moderately suited Wetness	0.50	Severe Low strength	1.00
CoB: Cookport-----	80	Moderate Low strength	0.50	Moderately suited Wetness Slope	0.50 0.50	Moderate Low strength	0.50
CpB: Cookport-----	70	Moderate Stoniness	0.50	Moderately suited Rock fragments Wetness	0.50 0.50	Moderate Low strength	0.50
CpD: Cookport-----	75	Moderate Stoniness Slope Restrictive layer	0.50 0.50 0.50	Poorly suited Slope Rock fragments Wetness	1.00 0.50 0.50	Moderate Low strength	0.50
Cr: Craigs ville-----	75	Slight		Moderately suited Low strength	0.50	Severe Low strength	1.00
Fr: Freetown-----	85	Severe Wetness	1.00	Poorly suited Ponding Low strength Wetness	1.00 1.00 1.00	Severe Low strength Wetness	1.00 0.50
GpB: Gilpin-----	75	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
GpC: Gilpin-----	75	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
GwD: Gilpin-----	50	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Wharton-----	30	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
HeA: Hagerstown-----	75	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
HeB: Hagerstown-----	75	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
HeC: Hagerstown-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
HfB: Hagerstown-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
HgC: Hagerstown-----	60	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Opequon-----	30	Severe Restrictive layer Low strength	1.00 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
HhA: Hartleton-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
HhB: Hartleton-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
HhC: Hartleton-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
HjC: Hazleton-----	75	Moderate Stoniness	0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
HkE: Hazleton-----	80	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
HLB: Clymer-----	40	Slight		Moderately suited Slope	0.50	Severe Low strength	1.00
Hazleton-----	40	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
HLc: Clymer-----	40	Slight		Moderately suited Slope	0.50	Severe Low strength	1.00
Hazleton-----	40	Slight		Moderately suited Slope	0.50	Slight Strength	0.10

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
H1D: Clymer-----	40	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Severe Low strength	1.00
Hazleton-----	40	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
HmB: Hazleton-----	45	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Slight Strength	0.10
Clymer-----	40	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Severe Low strength	1.00
HmD: Hazleton-----	50	Moderate Stoniness Slope Restrictive layer	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Clymer-----	30	Moderate Stoniness Slope Restrictive layer	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Severe Low strength	1.00
HoF: Hazleton-----	35	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Laidig-----	35	Severe Slope Stoniness Low strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
HuB: Hustontown-----	75	Moderate Low strength	0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50	Severe Low strength	1.00
HuC: Hustontown-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
HuD: Hustontown-----	75	Moderate Slope	0.50	Poorly suited Slope Low strength Wetness	1.00 0.50 0.50	Severe Low strength	1.00
KcD: Klinesville-----	80	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
KcE: Klinesville-----	80	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
KrA: Kreamer-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
LaB: Laidig-----	80	Severe Stoniness Low strength	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50	Moderate Low strength	0.50
LaC: Laidig-----	80	Severe Stoniness Low strength	1.00 0.50	Moderately suited Slope Low strength	0.50 0.50	Moderate Low strength	0.50
LaD: Laidig-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Moderate Low strength	0.50
LdB: Laidig-----	80	Severe Stoniness Low strength	1.00 0.50	Moderately suited Rock fragments Low strength	0.50 0.50	Moderate Low strength	0.50
LdC: Laidig-----	75	Severe Stoniness Low strength	1.00 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
LkB: Leck Kill-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
LkC: Leck Kill-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
LkD: Leck Kill-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
LkE: Leck Kill-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
LmD: Leck Kill-----	80	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
LnB: Leetonia-----	75	Severe Stoniness Sandiness	1.00 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50	Slight Strength	0.10
LnC: Leetonia-----	80	Severe Stoniness Sandiness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Slight Strength	0.10
Lo: Linden-----	75	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
Lr: Linden-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
MeB: Meckesville-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
MeC: Meckesville-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
MeD: Meckesville-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
MhD: Meckesville-----	80	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Low strength Rock fragments	1.00 0.50 0.50	Severe Low strength	1.00
Mn: Melvin-----	40	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Wetness Low strength	1.00 1.00 0.50	Severe Low strength	1.00
Newark-----	40	Moderate Flooding Low strength	0.50 0.50	Moderately suited Flooding Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
MoB: Morrison-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
MoC: Morrison-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
MuA: Murrill-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
MuB: Murrill-----	75	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
MuC: Murrill-----	75	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
MuD: Murrill-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
NoA: Nolo-----	80	Moderate Low strength	0.50	Poorly suited Wetness Low strength	1.00 0.50	Severe Low strength	1.00
NsA: Nolo-----	80	Moderate Low strength Stoniness	0.50 0.50	Poorly suited Wetness Low strength Rock fragments	1.00 0.50 0.50	Severe Low strength	1.00
OeE: Opequon-----	80	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
OhD: Opequon-----	70	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hagerstown-----	20	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
OsD: Opequon-----	70	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hagerstown-----	20	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
PaE: Pennval-----	80	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Sandiness Rock fragments	1.00 0.50 0.50	Slight	

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
Pb: Philo-----	75	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00
Pc: Philo-----	45	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00
Linden-----	40	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Severe Flooding	1.00	Poorly suited Flooding	1.00	Slight Strength	0.10
Pu: Purdy-----	80	Moderate Low strength Landslides	0.50 0.10	Poorly suited Wetness Low strength Landslides	1.00 0.50 0.10	Severe Low strength	1.00
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
TaB: Tilsit-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
TaC: Tilsit-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
TmA: Timberville-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
TmB: Timberville-----	80	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
UnB: Ungers-----	75	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Moderate Low strength	0.50
UnC: Ungers-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Moderate Low strength	0.50
UoB: Ungers-----	85	Severe Stoniness Low strength	1.00 0.50	Moderately suited Rock fragments Low strength	0.50 0.50	Moderate Low strength	0.50
UoC: Ungers-----	80	Severe Stoniness Low strength	1.00 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
UoE: Ungers-----	80	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
UpF: Ungers-----	50	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
Meckesville-----	30	Severe Slope Stoniness Low strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Severe Low strength	1.00
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
UsC: Urban land-----	70	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 10a.--Forestland Management (Part 1)--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
UsC: Comly-----	20	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
WaA: Watson-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
WbB: Wharton-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
WbC: Wharton-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50	Severe Low strength	1.00
WeB: Wharton-----	80	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
WgB: Wharton-----	50	Moderate Low strength	0.50	Moderately suited Low strength Wetness	0.50 0.50	Severe Low strength	1.00
Cookport-----	30	Slight		Moderately suited Wetness	0.50	Severe Low strength	1.00
WhA: Wheeling-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
WyA: Wyoming-----	85	Slight		Well suited		Slight Strength	0.10
WyB: Wyoming-----	85	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
ZoA: Zoar-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope Wetness	0.50 0.50
AfD: Allegheny-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
AgB: Allenwood-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
AgC: Allenwood-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope	0.50
AgD: Allenwood-----	90	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
At: Atkins-----	75	Slight		Slight		Poorly suited Flooding Wetness Low strength	1.00 1.00 0.50
Ba: Barbour-----	80	Slight		Slight		Moderately suited Flooding Low strength	0.50 0.50
Bb: Barbour-----	35	Slight		Slight		Moderately suited Low strength	0.50
Craigsville-----	35	Slight		Slight		Moderately suited Low strength	0.50
Bc: Basher-----	80	Slight		Slight		Moderately suited Flooding Low strength	0.50 0.50
BeB: Berks-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
BeC: Berks-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeD: Berks-----	45	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
Weikert-----	30	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
BeE: Berks-----	40	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
Weikert-----	35	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
BgA: Brinkerton-----	70	Slight		Slight		Poorly suited Wetness Low strength	1.00 0.50
BhB: Buchanan-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50
BhD: Buchanan-----	75	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength Wetness	1.00 0.50 0.50
BmB: Buchanan-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Rock fragments Low strength Wetness	0.50 0.50 0.50
BmC: Buchanan-----	75	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength Wetness	1.00 0.50 0.50 0.50
BuB: Buchanan-----	45	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50
Andover-----	40	Slight		Moderate Slope Erodibility	0.50 0.50	Poorly suited Wetness Low strength Slope	1.00 0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC: Buchanan-----	60	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
Andover-----	30	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Wetness Slope Low strength	1.00 0.50 0.50
BxB: Buchanan-----	45	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Rock fragments Low strength Slope Wetness	0.50 0.50 0.50 0.50
Andover-----	30	Slight		Moderate Slope Erodibility	0.50 0.50	Poorly suited Wetness Rock fragments Low strength Slope	1.00 0.50 0.50 0.50
BxC: Buchanan-----	55	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength Wetness	1.00 0.50 0.50 0.50
Andover-----	20	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Wetness Slope Rock fragments Low strength	1.00 1.00 0.50 0.50
CaB: Calvin-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Well suited	
CaC: Calvin-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
CbC: Cedarcreek-----	85	Slight		Slight		Moderately suited Slope Low strength	0.50 0.50
CbD: Cedarcreek-----	85	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
CbE: Cedarcreek-----	80	Severe Slope Erodibility	0.75 0.75	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcA: Chenango-----	80	Slight		Slight		Well suited	
CcB: Chenango-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
CdB: Clymer-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
CdD: Clymer-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
CeA: Clymer-----	80	Slight		Slight		Well suited	
CeB: Clymer-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
CeC: Clymer-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
CfB: Clymer-----	70	Slight		Slight		Moderately suited Rock fragments	0.50
CgB: Clymer-----	40	Slight		Slight		Moderately suited Rock fragments	0.50
Cookport-----	35	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Wetness Rock fragments Low strength	0.50 0.50 0.50
ChB: Clymer-----	50	Slight		Slight		Moderately suited Rock fragments	0.50
Hazleton-----	35	Slight		Slight		Moderately suited Rock fragments	0.50
CmA: Comly-----	80	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
CmB: Comly-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CmC: Comly-----	80	Moderate Slope Erodibility	0.50 0.50	Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
CnB: Cookport-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Well suited	
CoA: Cookport-----	80	Slight		Slight		Moderately suited Wetness	0.50
CoB: Cookport-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Wetness Slope	0.50 0.50
CpB: Cookport-----	70	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Rock fragments Wetness	0.50 0.50
CpD: Cookport-----	75	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Wetness	1.00 0.50 0.50
Cr: Craigsville-----	75	Slight		Slight		Moderately suited Low strength	0.50
Fr: Freetown-----	85	Very severe Organic matter content high	1.00	Very severe Organic matter content high	1.00	Poorly suited Ponding Low strength Wetness	1.00 1.00 1.00
GpB: Gilpin-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength	0.50
GpC: Gilpin-----	75	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
GwD: Gilpin-----	50	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
Wharton-----	30	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeA: Hagerstown-----	75	Slight		Slight		Moderately suited Low strength	0.50
HeB: Hagerstown-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
HeC: Hagerstown-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
HfB: Hagerstown-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
HgC: Hagerstown-----	60	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
Opequon-----	30	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
HhA: Hartleton-----	80	Slight		Slight		Moderately suited Low strength	0.50
HhB: Hartleton-----	80	Slight		Slight		Moderately suited Low strength Slope	0.50 0.50
HhC: Hartleton-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope Low strength	0.50 0.50
HjC: Hazleton-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50
HkE: Hazleton-----	80	Very severe Slope Erodibility	0.95 0.95	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments	1.00 1.00
HlB: Clymer-----	40	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
Hazleton-----	40	Slight		Slight		Moderately suited Slope	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
H1C: Clymer-----	40	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
Hazleton-----	40	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
H1D: Clymer-----	40	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
Hazleton-----	40	Moderate Slope Erodibility	0.50 0.50	Moderate Slope Erodibility	0.50 0.50	Poorly suited Slope	1.00
HmB: Hazleton-----	45	Slight		Slight		Moderately suited Rock fragments	0.50
Clymer-----	40	Slight		Slight		Moderately suited Rock fragments	0.50
HmD: Hazleton-----	50	Moderate Slope Erodibility	0.50 0.50	Moderate Slope Erodibility	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Clymer-----	30	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments	1.00 0.50
HoF: Hazleton-----	35	Severe Slope Erodibility	0.75 0.75	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments	1.00 0.50
Laidig-----	35	Severe Slope Erodibility	0.75 0.75	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
HuB: Hustontown-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope Wetness	0.50 0.50 0.50
HuC: Hustontown-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
HuD: Hustontown-----	75	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength Wetness	1.00 0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KcD: Klinesville-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
KcE: Klinesville-----	80	Very severe Slope Erodibility	0.95 0.95	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope	1.00
KrA: Kreamer-----	80	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
LaB: Laidig-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
LaC: Laidig-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
LaD: Laidig-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
LdB: Laidig-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
LdC: Laidig-----	75	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
LkB: Leck Kill-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
LkC: Leck Kill-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
LkD: Leck Kill-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
LkE: Leck Kill-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LmD: Leck Kill-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
LnB: Leetonia-----	75	Slight		Slight		Moderately suited Rock fragments Sandiness	0.50 0.50
LnC: Leetonia-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Lo: Linden-----	75	Slight		Slight		Poorly suited Flooding Low strength	1.00 0.50
Lr: Linden-----	80	Slight		Slight		Moderately suited Low strength	0.50
MeB: Meckesville-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
MeC: Meckesville-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
MeD: Meckesville-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
MhD: Meckesville-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength Rock fragments	1.00 0.50 0.50
Mn: Melvin-----	40	Slight		Slight		Poorly suited Flooding Wetness Low strength	1.00 1.00 0.50
Newark-----	40	Slight		Slight		Moderately suited Flooding Low strength Wetness	0.50 0.50 0.50
MoB: Morrison-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MoC: Morrison-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope Low strength	0.50 0.50
MuA: Murrill-----	80	Slight		Slight		Moderately suited Low strength	0.50
MuB: Murrill-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
MuC: Murrill-----	75	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
MuD: Murrill-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
NoA: Nolo-----	80	Slight		Slight		Poorly suited Wetness Low strength	1.00 0.50
NsA: Nolo-----	80	Slight		Slight		Poorly suited Wetness Low strength Rock fragments	1.00 0.50 0.50
OeE: Opequon-----	80	Severe Slope Erodibility	0.75 0.75	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
OhD: Opequon-----	70	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
Hagerstown-----	20	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
OsD: Opequon-----	70	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
Hagerstown-----	20	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Low strength	1.00 0.50
PaE: Pennval-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Sandiness Rock fragments	1.00 0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pb: Philo-----	75	Slight		Slight		Poorly suited Flooding Wetness Low strength	1.00 0.50 0.50
Pc: Philo-----	45	Slight		Slight		Poorly suited Flooding Wetness Low strength	1.00 0.50 0.50
Linden-----	40	Slight		Slight		Poorly suited Flooding Low strength	1.00 0.50
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Slight		Slight		Poorly suited Flooding	1.00
Pu: Purdy-----	80	Slight		Slight		Poorly suited Wetness Low strength Landslides	1.00 0.50 0.10
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
TaB: Tilsit-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Wetness	0.50 0.50
TaC: Tilsit-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
TmA: Timberville-----	80	Slight		Slight		Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TmB: Timberville-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
UnB: Ungers-----	75	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
UnC: Ungers-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength	0.50 0.50
UoB: Ungers-----	85	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
UoC: Ungers-----	80	Slight		Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
UoE: Ungers-----	80	Severe Slope Erodibility	0.75 0.75	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
UpF: Ungers-----	50	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
Meckesville-----	30	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope	0.50
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
UsC: Urban land-----	70	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 10b.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UsC: Comly-----	20	Moderate Slope Erodibility	0.50 0.50	Moderate Slope Erodibility	0.50 0.50	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Slight		Slight		Moderately suited Low strength	0.50
WaA: Watson-----	80	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
WbB: Wharton-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Wetness	0.50 0.50
WbC: Wharton-----	80	Moderate Slope Erodibility	0.50 0.50	Severe Slope Erodibility	0.95 0.95	Moderately suited Slope Low strength Wetness	0.50 0.50 0.50
WeB: Wharton-----	80	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Wetness	0.50 0.50
WgB: Wharton-----	50	Slight		Moderate Slope Erodibility	0.50 0.50	Moderately suited Low strength Wetness	0.50 0.50
Cookport-----	30	Slight		Slight		Moderately suited Wetness	0.50
WhA: Wheeling-----	80	Slight		Slight		Moderately suited Low strength	0.50
WyA: Wyoming-----	85	Slight		Slight		Well suited	
WyB: Wyoming-----	85	Slight		Slight		Moderately suited Slope	0.50
ZoA: Zoar-----	80	Slight		Slight		Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)

(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		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Well suited		Moderately suited Slope	0.50	Well suited	
AfD: Allegheny-----	80	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength	0.50
AgB: Allenwood-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
AgC: Allenwood-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
AgD: Allenwood-----	90	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
At: Atkins-----	75	Well suited		Well suited		Moderately suited Low strength	0.50
Ba: Barbour-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
Bb: Barbour-----	35	Well suited		Well suited		Moderately suited Low strength	0.50
Craigsville-----	35	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
Bc: Basher-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
BeB: Berks-----	75	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
BeC: Berks-----	80	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
BeD: Berks-----	45	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeD: Weikert-----	30	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
BeE: Berks-----	40	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50
Weikert-----	35	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50
BgA: Brinkerton-----	70	Well suited		Well suited		Moderately suited Low strength	0.50
BhB: Buchanan-----	75	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
BhD: Buchanan-----	75	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength	0.50
BmB: Buchanan-----	80	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments Low strength	0.50 0.50
BmC: Buchanan-----	75	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
BuB: Buchanan-----	45	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
Andover-----	40	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
BuC: Buchanan-----	60	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
Andover-----	30	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
BxB: Buchanan-----	45	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BxB: Andover-----	30	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
BxC: Buchanan-----	55	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
Andover-----	20	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
CaB: Calvin-----	75	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
CaC: Calvin-----	75	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
CbC: Cedarcreek-----	85	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50
CbD: Cedarcreek-----	85	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope Low strength	0.50 0.50
CbE: Cedarcreek-----	80	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Low strength	1.00 0.50
CcA: Chenango-----	80	Well suited		Moderately suited Rock fragments	0.50	Well suited	
CcB: Chenango-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
CdB: Clymer-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
CdD: Clymer-----	80	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
CeA: Clymer-----	80	Well suited		Moderately suited Rock fragments	0.50	Well suited	

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CeB: Clymer-----	75	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
CeC: Clymer-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
CfB: Clymer-----	70	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
CgB: Clymer-----	40	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
Cookport-----	35	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments Low strength	0.50 0.50
ChB: Clymer-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
Hazleton-----	35	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
CmA: Comly-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
CmB: Comly-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
CmC: Comly-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
CnB: Cookport-----	80	Well suited		Well suited		Well suited	
CoA: Cookport-----	80	Well suited		Moderately suited Rock fragments	0.50	Well suited	
CoB: Cookport-----	80	Well suited		Moderately suited Slope	0.50	Well suited	
CpB: Cookport-----	70	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
CpD: Cookport-----	75	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50

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Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cr: Craigsville-----	75	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
Fr: Freetown-----	85	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Low strength Wetness	1.00 1.00
GpB: Gilpin-----	75	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
GpC: Gilpin-----	75	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
GwD: Gilpin-----	50	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
Wharton-----	30	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
HeA: Hagerstown-----	75	Well suited		Well suited		Moderately suited Low strength	0.50
HeB: Hagerstown-----	75	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
HeC: Hagerstown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
HfB: Hagerstown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
HgC: Hagerstown-----	60	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Opequon-----	30	Moderately suited Stickiness High plasticity index	0.50 0.50	Moderately suited Stickiness High plasticity index Slope	0.50 0.50 0.50	Moderately suited Low strength	0.50
HhA: Hartleton-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Moderately suited Low strength	0.50
HhB: Hartleton-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HhC: Hartleton-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50
HjC: Hazleton-----	75	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
HkE: Hazleton-----	80	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Rock fragments Slope	1.00 1.00
HLB: Clymer-----	40	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Hazleton-----	40	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
HlC: Clymer-----	40	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Hazleton-----	40	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
HlD: Clymer-----	40	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Hazleton-----	40	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
HmB: Hazleton-----	45	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
Clymer-----	40	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50
HmD: Hazleton-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments	0.50
Clymer-----	30	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
HoF: Hazleton-----	35	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HoF: Laidig-----	35	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
HuB: Hustontown-----	75	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
HuC: Hustontown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
HuD: Hustontown-----	75	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength	0.50
KcD: Klinesville-----	80	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
KcE: Klinesville-----	80	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
KrA: Kreamer-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
LaB: Laidig-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50
LaC: Laidig-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50
LaD: Laidig-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Low strength Slope	0.50 0.50
LdB: Laidig-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Moderately suited Rock fragments Low strength	0.50 0.50
LdC: Laidig-----	75	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
LkB: Leck Kill-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkC: Leck Kill-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
LkD: Leck Kill-----	80	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
LkE: Leck Kill-----	80	Well suited		Unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
LmD: Leck Kill-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
LnB: Leetonia-----	75	Moderately suited Sandiness Rock fragments	0.50 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50
LnC: Leetonia-----	80	Moderately suited Sandiness Rock fragments	0.50 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50
Lo: Linden-----	75	Well suited		Well suited		Moderately suited Low strength	0.50
Lr: Linden-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
MeB: Meckesville-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MeC: Meckesville-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MeD: Meckesville-----	80	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
MhD: Meckesville-----	80	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Rock fragments	0.50 0.50
Mn: Melvin-----	40	Well suited		Well suited		Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mn: Newark-----	40	Well suited		Well suited		Moderately suited Low strength	0.50
MoB: Morrison-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MoC: Morrison-----	80	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MuA: Murrill-----	80	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
MuB: Murrill-----	75	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MuC: Murrill-----	75	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
MuD: Murrill-----	80	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
NoA: Nolo-----	80	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
NsA: Nolo-----	80	Moderately suited Rock fragments	0.50	Moderately suited Rock fragments	0.50	Moderately suited Low strength Rock fragments	0.50 0.50
OeE: Opequon-----	80	Moderately suited Stickiness High plasticity index Slope	0.50 0.50 0.50	Unsuited Slope Stickiness High plasticity index	1.00 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50
OhD: Opequon-----	70	Moderately suited Stickiness High plasticity index	0.50 0.50	Poorly suited Slope Stickiness High plasticity index	0.75 0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
Hagerstown-----	20	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OsD: Opequon-----	70	Moderately suited Stickiness High plasticity index	0.50 0.50	Poorly suited Slope Stickiness High plasticity index	0.75 0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
Hagerstown-----	20	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
PaE: Pennval-----	80	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50
Pb: Philo-----	75	Well suited		Well suited		Moderately suited Low strength	0.50
Pc: Philo-----	45	Well suited		Well suited		Moderately suited Low strength	0.50
Linden-----	40	Well suited		Well suited		Moderately suited Low strength	0.50
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Well suited	
Pu: Purdy-----	80	Moderately suited Stickiness High plasticity index	0.50 0.50	Moderately suited Stickiness High plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
TaB: Tilsit-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TaC: Tilsit-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
TmA: Timberville-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
TmB: Timberville-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
UnB: Ungers-----	75	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
UnC: Ungers-----	80	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
UoB: Ungers-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments Low strength	0.50 0.50
UoC: Ungers-----	80	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
UoE: Ungers-----	80	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
UpF: Ungers-----	50	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope Rock fragments Low strength	0.50 0.50 0.50
Meckesville-----	30	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope Rock fragments Low strength	0.50 0.50 0.50
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Well suited		Well suited		Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 10c.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UsC:							
Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Ut:							
Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Well suited		Well suited		Moderately suited Low strength	0.50
WaA:							
Watson-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
WbB:							
Wharton-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
WbC:							
Wharton-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
WeB:							
Wharton-----	80	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
WgB:							
Wharton-----	50	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
Cookport-----	30	Well suited		Moderately suited Rock fragments	0.50	Well suited	
WhA:							
Wheeling-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
WyA:							
Wyoming-----	85	Well suited		Moderately suited Rock fragments	0.50	Well suited	
WyB:							
Wyoming-----	85	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
ZoA:							
Zoar-----	80	Moderately suited Stickiness High plasticity index	0.50 0.50	Moderately suited Stickiness High plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)

(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 area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Somewhat limited Depth to saturated zone Gravel content	0.98 0.03	Somewhat limited Depth to saturated zone Gravel content	0.75 0.03	Very limited Gravel content Slope Depth to saturated zone Depth to bedrock Large stones content	1.00 1.00 0.98 0.29 0.01
AfD: Allegheny-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.10 0.01
AgB: Allenwood-----	80	Not limited		Not limited		Very limited Slope Gravel content Large stones content	1.00 0.99 0.08
AgC: Allenwood-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content Large stones content	1.00 0.99 0.08
AgD: Allenwood-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.99 0.08
At: Atkins-----	75	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Ba: Barbour-----	80	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding Gravel content	0.60 0.06
Bb: Barbour-----	35	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel content	0.06
Craigsville-----	35	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel content Large stones content	0.99 0.08

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Bc: Basher-----	80	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Flooding Depth to saturated zone Gravel content	0.60 0.39 0.04
BeB: Berks-----	75	Somewhat limited Gravel content	0.65	Somewhat limited Gravel content	0.65	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 0.80 0.01
BeC: Berks-----	80	Somewhat limited Gravel content Slope	0.65 0.63	Somewhat limited Gravel content Slope	0.65 0.63	Very limited Slope Gravel content Depth to bedrock Large stones content	1.00 1.00 0.80 0.01
BeD: Berks-----	45	Very limited Slope Gravel content	1.00 0.65	Very limited Slope Gravel content	1.00 0.65	Very limited Slope Gravel content Depth to bedrock Large stones content	1.00 1.00 0.80 0.01
Weikert-----	30	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.68
BeE: Berks-----	40	Very limited Slope Gravel content	1.00 0.65	Very limited Slope Gravel content	1.00 0.65	Very limited Slope Gravel content Depth to bedrock Large stones content	1.00 1.00 0.95 0.01
Weikert-----	35	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.68
BgA: Brinkerton-----	70	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.92	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.92	Very limited Depth to saturated zone Large stones content	1.00 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BhB: Buchanan-----	75	Somewhat limited Slow water movement Depth to saturated zone Depth to cemented pan Gravel content	0.96 0.67 0.65 0.54	Somewhat limited Slow water movement Depth to cemented pan Gravel content Depth to saturated zone	0.96 0.65 0.54 0.35	Very limited Gravel content Slope Slow water movement Depth to saturated zone Depth to cemented pan	1.00 1.00 0.96 0.67 0.64
BhD: Buchanan-----	75	Very limited Slope Slow water movement Depth to saturated zone Depth to cemented pan Gravel content	1.00 0.96 0.67 0.65 0.54	Very limited Slope Slow water movement Depth to cemented pan Gravel content Depth to saturated zone	1.00 0.96 0.65 0.54 0.35	Very limited Slope Gravel content Slow water movement Depth to saturated zone Depth to cemented pan	1.00 1.00 0.96 0.67 0.64
BmB: Buchanan-----	80	Very limited Large stones content Slow water movement Depth to saturated zone Depth to cemented pan Gravel content	1.00 0.96 0.67 0.65 0.54	Very limited Large stones content Slow water movement Depth to cemented pan Gravel content Depth to saturated zone	1.00 0.96 0.65 0.54 0.35	Very limited Large stones content Gravel content Slow water movement Depth to saturated zone Depth to cemented pan	1.00 1.00 0.96 0.67 0.64
BmC: Buchanan-----	75	Very limited Large stones content Slow water movement Slope Depth to saturated zone Depth to cemented pan	1.00 0.96 0.84 0.67 0.65	Very limited Large stones content Slow water movement Slope Depth to cemented pan Gravel content	1.00 0.96 0.84 0.65 0.54	Very limited Slope Large stones content Gravel content Slow water movement Depth to saturated zone	1.00 1.00 1.00 0.96 0.67
BuB: Buchanan-----	45	Somewhat limited Slow water movement Depth to saturated zone Depth to cemented pan Gravel content	0.96 0.67 0.65 0.54	Somewhat limited Slow water movement Depth to cemented pan Gravel content Depth to saturated zone	0.96 0.65 0.54 0.35	Very limited Gravel content Slope Slow water movement Depth to saturated zone Depth to cemented pan	1.00 1.00 0.96 0.67 0.64

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuB: Andover-----	40	Very limited Depth to saturated zone Depth to cemented pan Gravel content	1.00 0.98 0.54	Very limited Depth to saturated zone Depth to cemented pan Gravel content	1.00 0.98 0.54	Very limited Depth to saturated zone Gravel content Slope Depth to cemented pan Large stones content	1.00 1.00 1.00 0.98 0.01
BuC: Buchanan-----	60	Somewhat limited Slow water movement Depth to saturated zone Depth to cemented pan Slope Gravel content	0.96 0.67 0.65 0.63 0.54	Somewhat limited Slow water movement Depth to cemented pan Slope Gravel content Depth to saturated zone	0.96 0.65 0.63 0.54 0.35	Very limited Slope Gravel content Slow water movement Depth to saturated zone Depth to cemented pan	1.00 1.00 0.96 0.67 0.64
Andover-----	30	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content	1.00 0.98 0.63 0.54	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content	1.00 0.98 0.63 0.54	Very limited Depth to saturated zone Slope Gravel content Depth to cemented pan Large stones content	1.00 1.00 1.00 0.98 0.01
BxB: Buchanan-----	45	Very limited Large stones content Slow water movement Depth to saturated zone Depth to cemented pan Gravel content	1.00 0.96 0.67 0.65 0.54	Very limited Large stones content Slow water movement Depth to cemented pan Gravel content Depth to saturated zone	1.00 0.96 0.65 0.54 0.35	Very limited Large stones content Gravel content Slope Slow water movement Depth to saturated zone	1.00 1.00 1.00 0.96 0.67
Andover-----	30	Very limited Depth to saturated zone Large stones content Depth to cemented pan Gravel content	1.00 1.00 0.98 0.54	Very limited Depth to saturated zone Large stones content Depth to cemented pan Gravel content	1.00 1.00 0.98 0.54	Very limited Depth to saturated zone Large stones content Gravel content Slope Depth to cemented pan	1.00 1.00 1.00 1.00 0.98

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BxC: Buchanan-----	55	Very limited Large stones content Slow water movement Slope Depth to saturated zone Depth to cemented pan	1.00 0.96 0.84 0.67 0.65	Very limited Large stones content Slow water movement Depth to cemented pan Gravel content	1.00 0.96 0.84 0.65 0.54	Very limited Slope Large stones content Gravel content Slow water movement Depth to saturated zone	1.00 1.00 1.00 0.96 0.67
Andover-----	20	Very limited Depth to saturated zone Large stones content Depth to cemented pan Slope Gravel content	1.00 1.00 0.98 0.84 0.54	Very limited Depth to saturated zone Large stones content Depth to cemented pan Slope Gravel content	1.00 1.00 0.98 0.84 0.54	Very limited Depth to saturated zone Slope Large stones content Gravel content Depth to cemented pan	1.00 1.00 1.00 1.00 0.98
CaB: Calvin-----	75	Not limited		Not limited		Somewhat limited Slope Gravel content Depth to bedrock Large stones content	0.88 0.59 0.42 0.05
CaC: Calvin-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content Depth to bedrock Large stones content	1.00 0.59 0.42 0.05
CbC: Cedarcreek-----	85	Somewhat limited Gravel content Depth to saturated zone Large stones content Slope	0.97 0.39 0.12 0.01	Somewhat limited Gravel content Depth to saturated zone Large stones content Slope	0.97 0.19 0.12 0.01	Very limited Gravel content Large stones content Slope Depth to saturated zone	1.00 1.00 1.00 0.39
CbD: Cedarcreek-----	85	Very limited Slope Large stones content Depth to saturated zone	1.00 0.86 0.39	Very limited Slope Large stones content Depth to saturated zone	1.00 0.86 0.19	Very limited Slope Large stones content Gravel content Depth to saturated zone	1.00 1.00 0.99 0.39
CbE: Cedarcreek-----	80	Very limited Slope Large stones content Gravel content	1.00 0.86 0.04	Very limited Slope Large stones content Gravel content	1.00 0.86 0.04	Very limited Slope Large stones content Gravel content	1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcA: Chenango-----	80	Somewhat limited Gravel content	0.06	Somewhat limited Gravel content	0.06	Very limited Gravel content Large stones content	1.00 0.08
CcB: Chenango-----	80	Somewhat limited Gravel content	0.06	Somewhat limited Gravel content	0.06	Very limited Gravel content Slope Large stones content	1.00 1.00 0.08
CdB: Clymer-----	80	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.18
CdD: Clymer-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.18
CeA: Clymer-----	80	Not limited		Not limited		Somewhat limited Gravel content	0.18
CeB: Clymer-----	75	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.18
CeC: Clymer-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content	1.00 0.18
CfB: Clymer-----	70	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content	1.00 0.50 0.18
CgB: Clymer-----	40	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content	1.00 0.50 0.18
Cookport-----	35	Very limited Depth to saturated zone Large stones content Slow water movement Depth to cemented pan Gravel content	1.00 1.00 0.96 0.90 0.07	Very limited Large stones content Slow water movement Depth to cemented pan saturated zone Gravel content	1.00 0.96 0.90 0.90 0.07	Very limited Depth to saturated zone Large stones content Gravel content Slow water movement Depth to cemented pan	1.00 1.00 1.00 0.96 0.90

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChB: Clymer-----	50	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content	1.00 0.50 0.18
Hazleton-----	35	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Gravel content Slope	1.00 0.90 0.50
CmA: Comly-----	80	Somewhat limited Depth to saturated zone Depth to cemented pan Slow water movement	0.72 0.68 0.21	Somewhat limited Depth to cemented pan Depth to saturated zone Slow water movement	0.68 0.39 0.21	Somewhat limited Depth to saturated zone Slow water movement Gravel content	0.72 0.21 0.06
CmB: Comly-----	80	Somewhat limited Depth to saturated zone Depth to cemented pan Slow water movement	0.72 0.68 0.21	Somewhat limited Depth to cemented pan Depth to saturated zone Slow water movement	0.68 0.39 0.21	Very limited Slope Depth to saturated zone Depth to cemented pan Slow water movement Gravel content	1.00 0.72 0.68 0.21 0.06
CmC: Comly-----	80	Somewhat limited Depth to saturated zone Depth to cemented pan Slope Slow water movement	0.72 0.68 0.63 0.21	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Slow water movement	0.68 0.63 0.39 0.21	Very limited Slope Depth to saturated zone Depth to cemented pan Slow water movement Gravel content	1.00 0.72 0.68 0.21 0.06
CnB: Cookport-----	80	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.39	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.19	Somewhat limited Slow water movement Slope Depth to saturated zone	0.96 0.50 0.39
CoA: Cookport-----	80	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.98	Somewhat limited Depth to cemented pan Depth to saturated zone	0.98 0.90	Very limited Depth to saturated zone Gravel content	1.00 0.18

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoB: Cookport-----	80	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.98	Somewhat limited Depth to cemented pan Depth to saturated zone	0.98 0.90	Very limited Depth to saturated zone Slope Depth to cemented pan	1.00 1.00 0.98
CpB: Cookport-----	70	Very limited Large stones content Slow water movement Depth to saturated zone Gravel content	1.00 0.96 0.88 0.01	Very limited Large stones content Slow water movement Depth to saturated zone Gravel content	1.00 0.96 0.56 0.01	Very limited Large stones content Gravel content Slow water movement Depth to saturated zone	1.00 1.00 0.96 0.88
CpD: Cookport-----	75	Very limited Large stones content Slope Slow water movement Depth to saturated zone Gravel content	1.00 1.00 0.96 0.88 0.01	Very limited Large stones content Slope Slow water movement Depth to saturated zone Gravel content	1.00 1.00 0.96 0.56 0.01	Very limited Slope Large stones content Gravel content Slow water movement	1.00 1.00 1.00 0.96
Cr: Craigsville-----	75	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel content Large stones content	0.99 0.08
Fr: Freetown-----	85	Not rated		Not rated		Not rated	
GpB: Gilpin-----	75	Not limited		Not limited		Somewhat limited Slope Depth to bedrock Gravel content	0.88 0.54 0.43
GpC: Gilpin-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Depth to bedrock Gravel content	1.00 0.54 0.43
GwD: Gilpin-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Depth to bedrock Gravel content	1.00 0.54 0.43
Wharton-----	30	Very limited Slope Depth to saturated zone Slow water movement	1.00 0.62 0.43	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.43 0.32	Very limited Slope Depth to saturated zone Slow water movement	1.00 0.62 0.43

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeA: Hagerstown-----	75	Not limited		Not limited		Somewhat limited Large stones content	0.03
HeB: Hagerstown-----	75	Not limited		Not limited		Very limited Slope Large stones content	1.00 0.03
HeC: Hagerstown-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Large stones content	1.00 0.03
HfB: Hagerstown-----	80	Not limited		Not limited		Very limited Slope Large stones content	1.00 0.03
HgC: Hagerstown-----	60	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Large stones content	1.00 0.03
Opequon-----	30	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Slope Depth to bedrock	1.00 1.00
HhA: Hartleton-----	80	Not limited		Not limited		Somewhat limited Gravel content Large stones content	0.44 0.32
HhB: Hartleton-----	80	Not limited		Not limited		Very limited Slope Gravel content Large stones content	1.00 0.44 0.32
HhC: Hartleton-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content Large stones content	1.00 0.44 0.32
HjC: Hazleton-----	75	Very limited Large stones content Slope	1.00 0.84	Very limited Large stones content Slope	1.00 0.84	Very limited Slope Large stones content Gravel content	1.00 1.00 0.90

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HkE: Hazleton-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 1.00 0.90
HLB: Clymer-----	40	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.18
Hazleton-----	40	Somewhat limited Large stones content	0.01	Somewhat limited Large stones content	0.01	Very limited Slope Large stones content Gravel content	1.00 0.99 0.90
HLC: Clymer-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content	1.00 0.18
Hazleton-----	40	Somewhat limited Slope Large stones content	0.63 0.01	Somewhat limited Slope Large stones content	0.63 0.01	Very limited Slope Large stones content Gravel content	1.00 0.99 0.90
HLD: Clymer-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.18
Hazleton-----	40	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content Gravel content	1.00 0.99 0.90
HmB: Hazleton-----	45	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Gravel content Slope	1.00 0.90 0.50
Clymer-----	40	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content	1.00 0.50 0.18
HmD: Hazleton-----	50	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 1.00 0.90

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HmD: Clymer-----	30	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 1.00 0.18
HoF: Hazleton-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 1.00 0.90
Laidig-----	35	Very limited Slope Large stones content Slow water movement Gravel content	1.00 1.00 0.43 0.03	Very limited Slope Large stones content Slow water movement Gravel content	1.00 1.00 0.43 0.03	Very limited Slope Large stones content Gravel content Slow water movement	1.00 1.00 1.00 0.43
HuB: Hustontown-----	75	Somewhat limited Depth to saturated zone Depth to cemented pan	0.93 0.84	Somewhat limited Depth to cemented pan Depth to saturated zone	0.84 0.64	Very limited Slope Depth to saturated zone Depth to cemented pan Gravel content Large stones content	1.00 0.93 0.84 0.03 0.01
HuC: Hustontown-----	80	Somewhat limited Depth to saturated zone Depth to cemented pan Slope	0.93 0.84 0.63	Somewhat limited Depth to cemented pan Depth to saturated zone Slope	0.84 0.64 0.63	Very limited Slope Depth to saturated zone Depth to cemented pan Gravel content Large stones content	1.00 0.93 0.84 0.03 0.01
HuD: Hustontown-----	75	Very limited Slope Depth to saturated zone	1.00 0.93	Very limited Slope Depth to saturated zone	1.00 0.64	Very limited Slope Depth to saturated zone Gravel content Large stones content	1.00 0.93 0.03 0.01
KcD: Klinesville-----	80	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.09	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.09	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KcE: Klinesville-----	80	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.09	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.09	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.01
KrA: Kreamer-----	80	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.90	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.60	Somewhat limited Slow water movement Depth to saturated zone Gravel content	0.96 0.90 0.22
LaB: Laidig-----	80	Somewhat limited Large stones content Slow water movement Gravel content	0.82 0.43 0.03	Somewhat limited Large stones content Slow water movement Gravel content	0.82 0.43 0.03	Very limited Large stones content Slope Gravel content Slow water movement	1.00 1.00 1.00 0.43
LaC: Laidig-----	80	Somewhat limited Large stones content Slope Slow water movement Gravel content	0.82 0.63 0.43 0.03	Somewhat limited Large stones content Slope Slow water movement Gravel content	0.82 0.63 0.43 0.03	Very limited Slope Large stones content Gravel content Slow water movement	1.00 1.00 1.00 0.43
LaD: Laidig-----	80	Very limited Slope Large stones content Slow water movement Gravel content	1.00 0.82 0.43 0.03	Very limited Slope Large stones content Slow water movement Gravel content	1.00 0.82 0.43 0.03	Very limited Slope Large stones content Gravel content Slow water movement	1.00 1.00 1.00 0.43
LdB: Laidig-----	80	Very limited Large stones content Slow water movement Gravel content	1.00 0.43 0.03	Very limited Large stones content Slow water movement Gravel content	1.00 0.43 0.03	Very limited Large stones content Gravel content Slope Slow water movement	1.00 1.00 0.50 0.43
LdC: Laidig-----	75	Very limited Large stones content Slope Slow water movement Gravel content	1.00 0.84 0.43 0.03	Very limited Large stones content Slope Slow water movement Gravel content	1.00 0.84 0.43 0.03	Very limited Slope Large stones content Gravel content Slow water movement	1.00 1.00 1.00 0.43

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkB: Leck Kill-----	80	Somewhat limited Gravel content	0.05	Somewhat limited Gravel content	0.05	Very limited Gravel content Slope	1.00 1.00
LkC: Leck Kill-----	80	Somewhat limited Slope Gravel content	0.63 0.05	Somewhat limited Slope Gravel content	0.63 0.05	Very limited Slope Gravel content	1.00 1.00
LkD: Leck Kill-----	80	Very limited Slope Gravel content	1.00 0.05	Very limited Slope Gravel content	1.00 0.05	Very limited Slope Gravel content	1.00 1.00
LkE: Leck Kill-----	80	Very limited Slope Gravel content	1.00 0.05	Very limited Slope Gravel content	1.00 0.05	Very limited Slope Gravel content	1.00 1.00
LmD: Leck Kill-----	80	Somewhat limited Slope Large stones content Gravel content	0.84 0.53 0.05	Somewhat limited Slope Large stones content Gravel content	0.84 0.53 0.05	Very limited Slope Gravel content Large stones content	1.00 1.00 0.53
LnB: Leetonia-----	75	Very limited Large stones content Gravel content Too sandy	1.00 0.03 0.02	Very limited Large stones content Gravel content Too sandy	1.00 0.03 0.02	Very limited Large stones content Gravel content Slope Too sandy	1.00 1.00 0.50 0.02
LnC: Leetonia-----	80	Very limited Too sandy Large stones content Slope Gravel content	1.00 1.00 0.84 0.03	Very limited Too sandy Large stones content Slope Gravel content	1.00 1.00 0.84 0.03	Very limited Slope Too sandy Large stones content Gravel content	1.00 1.00 1.00 1.00
Lo: Linden-----	75	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Lr: Linden-----	80	Very limited Flooding	1.00	Not limited		Not limited	
MeB: Meckesville-----	80	Somewhat limited Slow water movement Depth to cemented pan	0.21 0.01	Somewhat limited Slow water movement Depth to cemented pan	0.21 0.01	Very limited Slope Slow water movement Depth to cemented pan Large stones content	1.00 0.21 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MeC: Meckesville-----	80	Somewhat limited Slope Slow water movement Depth to cemented pan	0.63 0.21 0.01	Somewhat limited Slope Slow water movement Depth to cemented pan	0.63 0.21 0.01	Very limited Slope Slow water movement Depth to cemented pan Large stones content	1.00 0.21 0.01 0.01
MeD: Meckesville-----	80	Very limited Slope Slow water movement Depth to cemented pan	1.00 0.21 0.01	Very limited Slope Slow water movement Depth to cemented pan	1.00 0.21 0.01	Very limited Slope Slow water movement Depth to cemented pan Large stones content	1.00 0.21 0.01 0.01
MhD: Meckesville-----	80	Very limited Slope Large stones content Slow water movement Depth to cemented pan	1.00 1.00 0.21 0.01	Very limited Slope Large stones content Slow water movement Depth to cemented pan	1.00 1.00 0.21 0.01	Very limited Slope Large stones content Slow water movement Depth to cemented pan Large stones content	1.00 1.00 0.21 0.01 0.01
Mn: Melvin-----	40	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Newark-----	40	Very limited Depth to saturated zone Flooding	1.00 1.00	Somewhat limited Depth to saturated zone	0.92	Very limited Depth to saturated zone Flooding	1.00 0.60
MoB: Morrison-----	80	Somewhat limited Gravel content	0.22	Somewhat limited Gravel content	0.22	Very limited Gravel content Slope Large stones content	1.00 1.00 0.01
MoC: Morrison-----	80	Somewhat limited Slope Gravel content	0.63 0.22	Somewhat limited Slope Gravel content	0.63 0.22	Very limited Gravel content Slope Large stones content	1.00 1.00 0.01
MuA: Murrill-----	80	Not limited		Not limited		Somewhat limited Gravel content	0.50

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MuB: Murrill-----	75	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.50
MuC: Murrill-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Gravel content	1.00 0.50
MuD: Murrill-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.50
NoA: Nolo-----	80	Very limited Depth to saturated zone Slow water movement Depth to cemented pan Gravel content	1.00 0.96 0.94 0.01	Very limited Depth to saturated zone Slow water movement Depth to cemented pan Gravel content	1.00 0.96 0.94 0.01	Very limited Depth to saturated zone Gravel content Slow water movement Large stones content	1.00 1.00 0.96 0.96 0.92
NsA: Nolo-----	80	Very limited Depth to saturated zone Large stones content Slow water movement Depth to cemented pan Gravel content	1.00 1.00 0.96 0.94 0.01	Very limited Depth to saturated zone Large stones content Slow water movement Depth to cemented pan Gravel content	1.00 1.00 0.96 0.94 0.01	Very limited Depth to saturated zone Large stones content Gravel content Slow water movement Large stones content	1.00 1.00 1.00 0.96 0.92
OeE: Opequon-----	80	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
OhD: Opequon-----	70	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Hagerstown-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
OsD: Opequon-----	70	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Hagerstown-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
PaE: Pennval-----	80	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pb: Philo-----	75	Very limited Flooding Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Flooding	0.99 0.60
Pc: Philo-----	45	Very limited Flooding Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Flooding	0.99 0.60
Linden-----	40	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Flooding Gravel content	1.00 0.07	Somewhat limited Flooding Gravel content	0.40 0.07	Very limited Flooding Gravel content Large stones content	1.00 1.00 0.08
Pu: Purdy-----	80	Very limited Depth to saturated zone Slow water movement	1.00 0.99	Very limited Depth to saturated zone Slow water movement	1.00 0.99	Very limited Depth to saturated zone Slow water movement	1.00 0.99
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Somewhat limited Depth to saturated zone Slow water movement Depth to cemented pan	0.99 0.96 0.94	Somewhat limited Slow water movement Depth to cemented pan Depth to saturated zone	0.96 0.94 0.81	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.96
TaB: Tilsit-----	80	Somewhat limited Depth to saturated zone Slow water movement Depth to cemented pan	0.99 0.96 0.94	Somewhat limited Slow water movement Depth to cemented pan Depth to saturated zone	0.96 0.94 0.81	Somewhat limited Depth to saturated zone Slow water movement Depth to cemented pan Slope	0.99 0.96 0.93 0.88

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TaC: Tilsit-----	80	Somewhat limited Depth to saturated zone Slow water movement Depth to cemented pan Slope	0.99 0.96 0.94 0.63	Somewhat limited Slow water movement Depth to cemented pan Depth to saturated zone Slope	0.96 0.94 0.81 0.63	Very limited Slope Depth to saturated zone Slow water movement Depth to cemented pan	1.00 0.99 0.96 0.93
TmA: Timberville-----	80	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel content	0.04
TmB: Timberville-----	80	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.04
UnB: Ungers-----	75	Not limited		Not limited		Very limited Slope	1.00
UnC: Ungers-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
UoB: Ungers-----	85	Very limited Large stones content Gravel content	1.00 0.37	Very limited Large stones content Gravel content	1.00 0.37	Very limited Large stones content Gravel content Slope	1.00 1.00 0.50
UoC: Ungers-----	80	Very limited Large stones content Slope Gravel content	1.00 0.84 0.37	Very limited Large stones content Slope Gravel content	1.00 0.84 0.37	Very limited Slope Large stones content Gravel content	1.00 1.00 1.00
UoE: Ungers-----	80	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37	Very limited Slope Large stones content Gravel content	1.00 1.00 1.00
UpF: Ungers-----	50	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37	Very limited Slope Large stones content Gravel content	1.00 1.00 1.00
Meckesville-----	30	Very limited Slope Large stones content Depth to cemented pan	1.00 1.00 0.10	Very limited Slope Large stones content Depth to cemented pan	1.00 1.00 0.10	Very limited Slope Large stones content Depth to cemented pan	1.00 1.00 0.10

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Somewhat limited Gravel content Slope	0.65 0.04	Somewhat limited Gravel content Slope	0.65 0.04	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 0.80 0.01
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to saturated zone Depth to cemented pan Slow water movement	0.72 0.68 0.21	Somewhat limited Depth to cemented pan Depth to saturated zone Slow water movement	0.68 0.39 0.21	Somewhat limited Depth to saturated zone Depth to cemented pan Slope Slow water movement Gravel content	0.72 0.68 0.50 0.21 0.06
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to saturated zone Depth to cemented pan Slope Slow water movement	0.72 0.68 0.63 0.21	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Slow water movement	0.68 0.63 0.39 0.21	Very limited Slope Depth to saturated zone pan Slow water movement Gravel content	1.00 0.72 0.68 0.21 0.06
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Very limited Flooding	1.00	Not limited		Not limited	
WaA: Watson-----	80	Somewhat limited Slow water movement Depth to saturated zone Depth to cemented pan	0.96 0.93 0.84	Somewhat limited Slow water movement Depth to cemented pan Depth to saturated zone	0.96 0.84 0.64	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.93
WbB: Wharton-----	80	Somewhat limited Depth to saturated zone Slow water movement	0.62 0.43	Somewhat limited Slow water movement Depth to saturated zone	0.43 0.32	Somewhat limited Slope Depth to saturated zone Slow water movement	0.88 0.62 0.43

Soil Survey of Clinton County, Pennsylvania

Table 11a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map area	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbC: Wharton-----	80	Somewhat limited Slope Depth to saturated zone Slow water movement	0.63 0.62 0.43	Somewhat limited Slope Slow water movement Depth to saturated zone	0.63 0.43 0.32	Very limited Slope Depth to saturated zone Slow water movement	1.00 0.62 0.43
WeB: Wharton-----	80	Somewhat limited Depth to saturated zone Large stones content Slow water movement	0.62 0.53 0.43	Somewhat limited Large stones content Slow water movement Depth to saturated zone	0.53 0.43 0.32	Somewhat limited Depth to saturated zone Large stones content Slope Slow water movement	0.62 0.53 0.50 0.43
WgB: Wharton-----	50	Somewhat limited Depth to saturated zone Large stones content Slow water movement	0.62 0.53 0.43	Somewhat limited Large stones content Slow water movement Depth to saturated zone	0.53 0.43 0.32	Somewhat limited Depth to saturated zone Large stones content Slope Slow water movement	0.62 0.53 0.50 0.43
Cookport-----	30	Very limited Depth to saturated zone Depth to cemented pan Large stones content	1.00 0.90 0.53	Somewhat limited Depth to cemented pan Depth to saturated zone Large stones content	0.90 0.90 0.53	Very limited Depth to saturated zone Depth to cemented pan Large stones content Slope Gravel content	1.00 0.90 0.53 0.50 0.18
WhA: Wheeling-----	80	Not limited		Not limited		Not limited	
WyA: Wyoming-----	85	Somewhat limited Gravel content	0.71	Somewhat limited Gravel content	0.71	Very limited Gravel content Large stones content	1.00 0.08
WyB: Wyoming-----	85	Somewhat limited Gravel content	0.71	Somewhat limited Gravel content	0.71	Very limited Gravel content Slope Large stones content	1.00 1.00 0.08
ZoA: Zoar-----	80	Somewhat limited Slow water movement Depth to saturated zone	0.43 0.39	Somewhat limited Slow water movement Depth to saturated zone	0.43 0.19	Somewhat limited Slow water movement Depth to saturated zone	0.43 0.39

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Very limited Droughty Depth to saturated zone Depth to bedrock Gravel content Large stones content	1.00 0.75 0.29 0.03 0.01
AfD: Allegheny-----	80	Somewhat limited Slope	0.08	Not limited		Very limited Slope Large stones content	1.00 0.01
AgB: Allenwood-----	80	Not limited		Not limited		Somewhat limited Large stones content	0.08
AgC: Allenwood-----	80	Not limited		Not limited		Somewhat limited Slope Large stones content	0.63 0.08
AgD: Allenwood-----	90	Somewhat limited Slope	0.50	Not limited		Very limited Slope Large stones content	1.00 0.08
At: Atkins-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Ba: Barbour-----	80	Not limited		Not limited		Somewhat limited Flooding	0.60
Bb: Barbour-----	35	Not limited		Not limited		Not limited	
Craigsville-----	35	Not limited		Not limited		Somewhat limited Large stones content	0.08
Bc: Basher-----	80	Not limited		Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.19

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
BeB: Berks-----	75	Not limited		Not limited		Very limited Droughty Depth to bedrock Gravel content Large stones content	0.99 0.80 0.65 0.01
BeC: Berks-----	80	Not limited		Not limited		Very limited Droughty Depth to bedrock Gravel content Slope Large stones content	0.99 0.80 0.65 0.63 0.01
BeD: Berks-----	45	Somewhat limited Slope	0.50	Not limited		Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 0.99 0.80 0.65 0.01
Weikert-----	30	Somewhat limited Slope	0.50	Not limited		Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.68 0.54
BeE: Berks-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 0.95 0.65 0.01
Weikert-----	35	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.68 0.54
BgA: Brinkerton-----	70	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty	1.00 0.92 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
BhB: Buchanan-----	75	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.15 0.01
BhD: Buchanan-----	75	Somewhat limited Slope Depth to saturated zone	0.18 0.04	Somewhat limited Depth to saturated zone	0.04	Very limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	1.00 0.64 0.54 0.35 0.15
BmB: Buchanan-----	80	Very limited Large stones content Depth to saturated zone	1.00 0.04	Very limited Large stones content Depth to saturated zone	1.00 0.04	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.20 0.01
BmC: Buchanan-----	75	Very limited Large stones content Depth to saturated zone	1.00 0.04	Very limited Large stones content Depth to saturated zone	1.00 0.04	Somewhat limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	0.84 0.64 0.54 0.35 0.20
BuB: Buchanan-----	45	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.15 0.01
Andover-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to cemented pan Gravel content Droughty Large stones content	1.00 0.98 0.54 0.46 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
BuC: Buchanan-----	60	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to cemented pan Slope Gravel content Depth to saturated zone Droughty	0.64 0.63 0.54 0.35 0.15
Andover-----	30	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content Droughty	1.00 0.98 0.63 0.54 0.46
BxB: Buchanan-----	45	Very limited Large stones content Depth to saturated zone	1.00 0.04	Very limited Large stones content Depth to saturated zone	1.00 0.04	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones	0.64 0.54 0.35 0.20 0.01
Andover-----	30	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Depth to cemented pan Gravel content Droughty Large stones content	1.00 0.98 0.54 0.50 0.01
BxC: Buchanan-----	55	Very limited Large stones content Depth to saturated zone	1.00 0.04	Very limited Large stones content Depth to saturated zone	1.00 0.04	Somewhat limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	0.84 0.64 0.54 0.35 0.20
Andover-----	20	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content Droughty	1.00 0.98 0.84 0.54 0.50

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
CaB: Calvin-----	75	Not limited		Not limited		Somewhat limited Droughty Depth to bedrock Large stones content	0.84 0.42 0.05
CaC: Calvin-----	75	Not limited		Not limited		Somewhat limited Droughty Slope Depth to bedrock Large stones content	0.84 0.63 0.42 0.05
CbC: Cedarcreek-----	85	Somewhat limited Large stones content	0.12	Somewhat limited Large stones content	0.12	Very limited Droughty Large stones content Gravel content Depth to saturated zone Slope	1.00 1.00 0.97 0.19 0.01
CbD: Cedarcreek-----	85	Very limited Slope Large stones content	1.00 0.86	Somewhat limited Large stones content Slope	0.86 0.56	Very limited Slope Droughty Large stones content Depth to saturated zone	1.00 1.00 1.00 0.19
CbE: Cedarcreek-----	80	Very limited Slope Large stones content	1.00 0.86	Very limited Slope Large stones content	1.00 0.86	Very limited Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.04
CcA: Chenango-----	80	Not limited		Not limited		Somewhat limited Droughty Large stones content Gravel content	0.15 0.08 0.06
CcB: Chenango-----	80	Not limited		Not limited		Somewhat limited Droughty Large stones content Gravel content	0.15 0.08 0.06
CdB: Clymer-----	80	Not limited		Not limited		Somewhat limited Droughty	0.02

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
CdD: Clymer-----	80	Somewhat limited Slope	0.08	Not limited		Very limited Slope Droughty	1.00 0.02
CeA: Clymer-----	80	Not limited		Not limited		Somewhat limited Droughty	0.02
CeB: Clymer-----	75	Not limited		Not limited		Somewhat limited Droughty	0.02
CeC: Clymer-----	80	Not limited		Not limited		Somewhat limited Slope Droughty	0.63 0.02
CfB: Clymer-----	70	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Droughty	0.02
CgB: Clymer-----	40	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Droughty	0.02
Cookport-----	35	Very limited Large stones content Depth to saturated zone	1.00 0.78	Very limited Large stones content Depth to saturated zone	1.00 0.78	Somewhat limited Depth to cemented pan Depth to saturated zone Large stones content Droughty Gravel content	0.90 0.90 0.32 0.24 0.07
ChB: Clymer-----	50	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Droughty	0.02
Hazleton-----	35	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Large stones content	0.99
CmA: Comly-----	80	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26
CmB: Comly-----	80	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
CmC: Comly-----	80	Very limited Water erosion Depth to saturated zone	1.00 0.06	Very limited Water erosion Depth to saturated zone	1.00 0.06	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Droughty	0.68 0.63 0.39 0.26
CnB: Cookport-----	80	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
CoA: Cookport-----	80	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.98 0.90 0.90
CoB: Cookport-----	80	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.98 0.90 0.44
CpB: Cookport-----	70	Very limited Large stones content Depth to saturated zone	1.00 0.18	Very limited Large stones content Depth to saturated zone	1.00 0.18	Somewhat limited Large stones content Depth to saturated zone Gravel content	0.95 0.56 0.01
CpD: Cookport-----	75	Very limited Large stones content Slope Depth to saturated zone	1.00 0.18 0.18	Very limited Large stones content Depth to saturated zone	1.00 0.18	Very limited Slope Large stones content Depth to saturated zone Gravel content	1.00 0.95 0.56 0.01
Cr: Craigsville-----	75	Not limited		Not limited		Somewhat limited Large stones content	0.08
Fr: Freetown-----	85	Not rated		Not rated		Not rated	
GpB: Gilpin-----	75	Not limited		Not limited		Somewhat limited Depth to bedrock Droughty	0.54 0.17

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
GpC: Gilpin-----	75	Not limited		Not limited		Somewhat limited Slope Depth to bedrock Droughty	0.63 0.54 0.17
GwD: Gilpin-----	50	Somewhat limited Slope	0.50	Not limited		Very limited Slope Depth to bedrock Droughty	1.00 0.54 0.17
Wharton-----	30	Very limited Water erosion Slope Depth to saturated zone	1.00 0.50 0.02	Very limited Water erosion Depth to saturated zone	1.00 0.02	Very limited Slope Depth to saturated zone	1.00 0.32
HeA: Hagerstown-----	75	Not limited		Not limited		Somewhat limited Large stones content	0.03
HeB: Hagerstown-----	75	Not limited		Not limited		Somewhat limited Large stones content	0.03
HeC: Hagerstown-----	80	Not limited		Not limited		Somewhat limited Slope Large stones content	0.63 0.03
HfB: Hagerstown-----	80	Not limited		Not limited		Somewhat limited Large stones content	0.03
HgC: Hagerstown-----	60	Not limited		Not limited		Somewhat limited Slope Large stones content	0.63 0.03
Opequon-----	30	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.93 0.63
HhA: Hartleton-----	80	Not limited		Not limited		Somewhat limited Large stones content Droughty	0.32 0.19
HhB: Hartleton-----	80	Not limited		Not limited		Somewhat limited Large stones content Droughty	0.32 0.19

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
HhC: Hartleton-----	80	Not limited		Not limited		Somewhat limited Slope Large stones content Droughty	0.63 0.32 0.19
HjC: Hazleton-----	75	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Large stones content Slope	0.99 0.84
HkE: Hazleton-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.99
HLB: Clymer-----	40	Not limited		Not limited		Somewhat limited Droughty	0.02
Hazleton-----	40	Somewhat limited Large stones content	0.01	Somewhat limited Large stones content	0.01	Somewhat limited Large stones content	0.99
HLC: Clymer-----	40	Not limited		Not limited		Somewhat limited Slope Droughty	0.63 0.02
Hazleton-----	40	Somewhat limited Large stones content	0.01	Somewhat limited Large stones content	0.01	Somewhat limited Large stones content Slope	0.99 0.63
HLD: Clymer-----	40	Somewhat limited Slope	0.50	Not limited		Very limited Slope Droughty	1.00 0.02
Hazleton-----	40	Somewhat limited Slope Large stones content	0.50 0.01	Somewhat limited Large stones content	0.01	Very limited Slope Large stones content	1.00 0.99
HmB: Hazleton-----	45	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Large stones content	0.99
Clymer-----	40	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Droughty	0.02
HmD: Hazleton-----	50	Very limited Large stones content Slope	1.00 0.08	Very limited Large stones content	1.00	Very limited Slope Large stones content	1.00 0.99

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
HmD: Clymer-----	30	Very limited Large stones content Slope	1.00 0.08	Very limited Large stones content	1.00	Very limited Slope Droughty	1.00 0.02
HoF: Hazleton-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 0.96	Very limited Slope Large stones content	1.00 0.99
Laidig-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 0.96	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.03 0.01
HuB: Hustontown-----	75	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty Large stones content	0.84 0.64 0.01 0.01
HuC: Hustontown-----	80	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to cemented pan Depth to saturated zone Slope Droughty Large stones content	0.84 0.64 0.63 0.01 0.01
HuD: Hustontown-----	75	Somewhat limited Depth to saturated zone Slope	0.27 0.18	Somewhat limited Depth to saturated zone	0.27	Very limited Slope Depth to saturated zone Droughty Large stones content	1.00 0.64 0.01 0.01
KcD: Klinesville-----	80	Somewhat limited Slope	0.50	Not limited		Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
KcE: Klinesville-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01
KrA: Kreamer-----	80	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.60
LaB: Laidig-----	80	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content	0.82	Very limited Large stones content Gravel content Droughty	1.00 0.03 0.01
LaC: Laidig-----	80	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content	0.82	Very limited Large stones content Slope Gravel content Droughty	1.00 0.63 0.03 0.01
LaD: Laidig-----	80	Somewhat limited Large stones content Slope	0.82 0.50	Somewhat limited Large stones content	0.82	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.03 0.01
LdB: Laidig-----	80	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Gravel content Droughty	1.00 0.03 0.01
LdC: Laidig-----	75	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content Droughty	1.00 0.84 0.03 0.01
LkB: Leck Kill-----	80	Not limited		Not limited		Somewhat limited Gravel content	0.05
LkC: Leck Kill-----	80	Not limited		Not limited		Somewhat limited Slope Gravel content	0.63 0.05

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
LkD: Leck Kill-----	80	Somewhat limited Slope	0.50	Not limited		Very limited Slope Gravel content	1.00 0.05
LkE: Leck Kill-----	80	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Gravel content	1.00 0.05
LmD: Leck Kill-----	80	Somewhat limited Large stones content	0.53	Somewhat limited Large stones content	0.53	Somewhat limited Slope Gravel content	0.84 0.05
LnB: Leetonia-----	75	Very limited Large stones content Too sandy	1.00 0.02	Very limited Large stones content Too sandy	1.00 0.02	Very limited Droughty Large stones content Gravel content	1.00 1.00 0.03
LnC: Leetonia-----	80	Very limited Too sandy Large stones content	1.00 1.00	Very limited Too sandy Large stones content	1.00 1.00	Very limited Too sandy Droughty Large stones content Slope Gravel content	1.00 1.00 1.00 0.84 0.03
Lo: Linden-----	75	Not limited		Not limited		Somewhat limited Flooding	0.60
Lr: Linden-----	80	Not limited		Not limited		Not limited	
MeB: Meckesville-----	80	Not limited		Not limited		Somewhat limited Depth to cemented pan Large stones content	0.01 0.01
MeC: Meckesville-----	80	Not limited		Not limited		Somewhat limited Slope Depth to cemented pan Large stones content	0.63 0.01 0.01
MeD: Meckesville-----	80	Somewhat limited Slope	0.50	Not limited		Very limited Slope Depth to cemented pan Large stones content	1.00 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
MhD: Meckesville-----	80	Very limited Large stones content Slope	1.00 0.32	Very limited Large stones content	1.00	Very limited Slope Depth to cemented pan Large stones content	1.00 0.01 0.01
Mn: Melvin-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Newark-----	40	Somewhat limited Depth to saturated zone	0.82	Somewhat limited Depth to saturated zone	0.82	Somewhat limited Depth to saturated zone Flooding	0.92 0.60
MoB: Morrison-----	80	Not limited		Not limited		Somewhat limited Gravel content Large stones content	0.22 0.01
MoC: Morrison-----	80	Not limited		Not limited		Somewhat limited Slope Gravel content Large stones content	0.63 0.22 0.01
MuA: Murrill-----	80	Not limited		Not limited		Not limited	
MuB: Murrill-----	75	Not limited		Not limited		Not limited	
MuC: Murrill-----	75	Not limited		Not limited		Somewhat limited Slope	0.63
MuD: Murrill-----	80	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
NoA: Nolo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty Gravel content	1.00 0.93 0.92 0.30 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
NsA: Nolo-----	80	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Large stones content	1.00 1.00	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty Gravel content	1.00 0.93 0.92 0.30 0.01
OeE: Opequon-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93
OhD: Opequon-----	70	Somewhat limited Slope	0.50	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93
Hagerstown-----	20	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
OsD: Opequon-----	70	Somewhat limited Slope	0.50	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93
Hagerstown-----	20	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
PaE: Pennval-----	80	Not rated		Not rated		Very limited Slope	1.00
Pb: Philo-----	75	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone Flooding	0.78 0.60
Pc: Philo-----	45	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone Flooding	0.78 0.60
Linden-----	40	Not limited		Not limited		Somewhat limited Flooding	0.60
Ps: Pits-----	80	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
Pt: Potomac-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding Droughty Large stones content Gravel content	1.00 0.98 0.08 0.07
Pu: Purdy-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Somewhat limited Depth to saturated zone	0.56	Somewhat limited Depth to saturated zone	0.56	Somewhat limited Depth to cemented pan Depth to saturated zone	0.93 0.81
TaB: Tilsit-----	80	Somewhat limited Depth to saturated zone	0.56	Somewhat limited Depth to saturated zone	0.56	Somewhat limited Depth to cemented pan Depth to saturated zone	0.93 0.81
TaC: Tilsit-----	80	Very limited Water erosion Depth to saturated zone	1.00 0.56	Very limited Water erosion Depth to saturated zone	1.00 0.56	Somewhat limited Depth to cemented pan Depth to saturated zone Slope	0.93 0.81 0.63
TmA: Timberville-----	80	Not limited		Not limited		Not limited	
TmB: Timberville-----	80	Not limited		Not limited		Not limited	
UnB: Ungers-----	75	Not limited		Not limited		Somewhat limited Large stones content	0.01
UnC: Ungers-----	80	Not limited		Not limited		Somewhat limited Slope Large stones content	0.63 0.01

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
UoB: Ungers-----	85	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Gravel content	1.00 0.37
UoC: Ungers-----	80	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones content Slope Gravel content	1.00 0.84 0.37
UoE: Ungers-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 0.96	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37
UpF: Ungers-----	50	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 0.78	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37
Meckesville-----	30	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 0.78	Very limited Slope Depth to cemented pan Large stones content	1.00 0.10 0.01
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Not limited		Not limited		Very limited Droughty Depth to bedrock Gravel content Slope Large stones content	0.99 0.80 0.65 0.04 0.01
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Water erosion Depth to saturated zone	1.00 0.06	Very limited Water erosion Depth to saturated zone	1.00 0.06	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Droughty	0.68 0.63 0.39 0.26
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Not limited		Not limited		Not limited	
Waa: Watson-----	80	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to saturated zone	0.27	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.84 0.64 0.05
WbB: Wharton-----	80	Somewhat limited Depth to saturated zone	0.02	Somewhat limited Depth to saturated zone	0.02	Somewhat limited Depth to saturated zone	0.32
WbC: Wharton-----	80	Very limited Water erosion Depth to saturated zone	1.00 0.02	Very limited Water erosion Depth to saturated zone	1.00 0.02	Somewhat limited Slope Depth to saturated zone	0.63 0.32
WeB: Wharton-----	80	Somewhat limited Large stones content Depth to saturated zone	0.53 0.02	Somewhat limited Large stones content Depth to saturated zone	0.53 0.02	Somewhat limited Depth to saturated zone	0.32
WgB: Wharton-----	50	Somewhat limited Large stones content Depth to saturated zone	0.53 0.02	Somewhat limited Large stones content Depth to saturated zone	0.53 0.02	Somewhat limited Depth to saturated zone	0.32
Cookport-----	30	Somewhat limited Depth to saturated zone Large stones content	0.78 0.53	Somewhat limited Depth to saturated zone Large stones content	0.78 0.53	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.90 0.90 0.75
WhA: Wheeling-----	80	Not limited		Not limited		Not limited	

Soil Survey of Clinton County, Pennsylvania

Table 11b.--Recreational Development (Part 2)--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
WyA: Wyoming-----	85	Not limited		Not limited		Somewhat limited Gravel content Droughty Large stones content	0.71 0.23 0.08
WyB: Wyoming-----	85	Not limited		Not limited		Somewhat limited Gravel content Droughty Large stones content	0.71 0.23 0.08
ZoA: Zoar-----	80	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19

Soil Survey of Clinton County, Pennsylvania

Table 12.--Hydric Soils

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria*
AeB----- Aeric Epiaquents, gently sloping	Nolo	5	Depressions, plateaus	2B3
At----- Atkins silt loam	Atkins	75	Flood plains	2B3
Bb----- Barbour-Craigsville complex	Atkins	5	Flood plains	2B3
Bc----- Basher silt loam	Atkins	5	Flood plains	2B3
EgA----- Brinkerton silt loam, 0 to 3 percent slopes	Brinkerton Nolo	70 5	Drainageways Plateaus	2B3 2B3
BhB----- Buchanan gravelly loam, 3 to 8 percent slopes	Andover	10	Depressions	2B3
BhD----- Buchanan gravelly loam, 8 to 25 percent slopes	Andover	10	Depressions	2B3
BmB----- Buchanan gravelly loam, 0 to 8 percent slopes, extremely stony	Andover, extremely stony	5	Depressions	2B3
BmC----- Buchanan gravelly loam, 8 to 25 percent slopes, extremely stony	Andover, extremely stony	10	Depressions	2B3
BuB----- Buchanan-Andover gravelly loams, 3 to 8 percent slopes	Andover	40	Valleys	2B3
BuC----- Buchanan-Andover gravelly loams, 8 to 15 percent slopes	Andover	30	Valleys	2B3
BxB----- Buchanan-Andover gravelly loams, 0 to 8 percent slopes, extremely stony	Andover	35	Valleys	2B3
BxC----- Buchanan-Andover gravelly loams, 8 to 25 percent slopes, extremely stony	Andover	20	Valleys	2B3
CoA----- Cookport loam, 0 to 3 percent slopes	Andover	10	Valleys	2B3
CoB----- Cookport loam, 3 to 8 percent slopes	Nolo	10	Depressions	2B3
CpB----- Cookport channery loam, 0 to 8 percent slopes, extremely stony	Andover	5	Depressions	2B3

Soil Survey of Clinton County, Pennsylvania

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria*
Fr----- Freetown mucky peat	Freetown	85	Plateaus	1, 3
	Nolo	10	Depressions, plateaus	2B3
	Unnamed	5	Swamps	1, 3
LaB----- Laidig gravelly loam, 3 to 8 percent slopes	Andover	5	Depressions	2B3
Mn----- Melvin and Newark silt loams	Melvin	40	Flood plains	2B3
	Atkins	10	Flood plains	2B3
	Purdy	5	Depressions	2B3
NoA----- Nolo silt loam, 0 to 3 percent slopes	Nolo	80	Plateaus	2B3
NsA----- Nolo silt loam, 0 to 3 percent slopes, extremely stony	Nolo	80	Plateaus	2B3
Pb----- Philo silt loam	Atkins	5	Flood plains	2B3
Pc----- Philo-Linden silt loams	Atkins	5	Flood plains	2B3
Pu----- Purdy silt loam, 0 to 3 percent slopes	Purdy	80	River valleys, terraces	2B3
WgB----- Wharton-Cookport complex, 0 to 8 percent slopes, very stony	Nolo	5	Depressions	2B3
ZoA----- Zoar silt loam, 0 to 3 percent slopes	Purdy	10	Terraces	2B3

* Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)

(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
AeB: Aeric Epiaquents----	80	Somewhat limited Depth to saturated zone Depth to hard bedrock	0.98 0.29	Very limited Depth to saturated zone Depth to hard bedrock	1.00 1.00	Somewhat limited Depth to saturated zone Slope Depth to hard bedrock	0.98 0.88 0.29
AfD: Allegheny-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
AgB: Allenwood-----	80	Not limited		Not limited		Somewhat limited Slope	0.50
AgC: Allenwood-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
AgD: Allenwood-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
At: Atkins-----	75	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Ba: Barbour-----	80	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
Bb: Barbour-----	35	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
Craigsville-----	35	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Bc: Basher-----	80	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
BeB: Berks-----	75	Not limited		Somewhat limited Depth to soft bedrock	0.79	Somewhat limited Slope	0.50

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
BeC: Berks-----	80	Somewhat limited Slope	0.63	Somewhat limited Depth to soft bedrock Slope	0.79 0.63	Very limited Slope	1.00
BeD: Berks-----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.79	Very limited Slope	1.00
Weikert-----	30	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
BeE: Berks-----	40	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.95	Very limited Slope	1.00
Weikert-----	35	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
BgA: Brinkerton-----	70	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
BhB: Buchanan-----	75	Somewhat limited Depth to saturated zone	0.67	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.67 0.50
BhD: Buchanan-----	75	Very limited Slope Depth to saturated zone	1.00 0.67	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.67
BmB: Buchanan-----	80	Somewhat limited Depth to saturated zone	0.67	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.67
BmC: Buchanan-----	75	Somewhat limited Slope Depth to saturated zone	0.84 0.67	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Slope Depth to saturated zone	1.00 0.67
BuB: Buchanan-----	45	Somewhat limited Depth to saturated zone	0.67	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.67 0.50

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
BuB: Andover-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
BuC: Buchanan-----	60	Somewhat limited Depth to saturated zone Slope	0.67 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 0.67
Andover-----	30	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
BxB: Buchanan-----	45	Somewhat limited Depth to saturated zone	0.67	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.67 0.50
Andover-----	30	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
BxC: Buchanan-----	55	Somewhat limited Slope Depth to saturated zone	0.84 0.67	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Slope Depth to saturated zone	1.00 0.67
Andover-----	20	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Slope Depth to saturated zone	1.00 1.00
CaB: Calvin-----	75	Somewhat limited Large stones content	0.55	Somewhat limited Large stones content Depth to soft bedrock	0.55 0.42	Somewhat limited Large stones content Slope	0.55 0.12
CaC: Calvin-----	75	Somewhat limited Slope Large stones content	0.63 0.55	Somewhat limited Slope Large stones content Depth to soft bedrock	0.63 0.55 0.42	Very limited Slope Large stones content	1.00 0.55
CbC: Cedarcreek-----	85	Somewhat limited Large stones content Depth to saturated zone Slope	0.40 0.39 0.01	Very limited Depth to saturated zone Large stones content Slope	1.00 0.40 0.01	Very limited Slope Large stones content Depth to saturated zone	1.00 0.40 0.39

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
CbD: Cedarcreek-----	85	Very limited Slope Large stones content Depth to saturated zone	1.00 1.00 0.39	Very limited Slope Depth to saturated zone Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Depth to saturated zone	1.00 1.00 0.39
CbE: Cedarcreek-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00
CcA: Chenango-----	80	Somewhat limited Large stones content	0.03	Somewhat limited Large stones content	0.03	Somewhat limited Large stones content	0.03
CcB: Chenango-----	80	Somewhat limited Large stones content	0.03	Somewhat limited Large stones content	0.03	Somewhat limited Slope Large stones content	0.50 0.03
CdB: Clymer-----	80	Not limited		Somewhat limited Depth to hard bedrock	0.42	Somewhat limited Slope	0.50
CdD: Clymer-----	80	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.42	Very limited Slope	1.00
CeA: Clymer-----	80	Not limited		Somewhat limited Depth to hard bedrock	0.42	Not limited	
CeB: Clymer-----	75	Not limited		Somewhat limited Depth to hard bedrock	0.42	Somewhat limited Slope	0.50
CeC: Clymer-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to hard bedrock	0.63 0.42	Very limited Slope	1.00
CfB: Clymer-----	70	Not limited		Somewhat limited Depth to hard bedrock	0.42	Not limited	
CgB: Clymer-----	40	Not limited		Somewhat limited Depth to hard bedrock	0.42	Not limited	

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
CgB: Cookport-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to hard bedrock	1.00 0.13	Very limited Depth to saturated zone	1.00
ChB: Clymer-----	50	Not limited		Somewhat limited Depth to hard bedrock	0.42	Not limited	
Hazleton-----	35	Not limited		Somewhat limited Depth to hard bedrock	0.01	Not limited	
CmA: Comly-----	80	Somewhat limited Depth to saturated zone	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.72
CmB: Comly-----	80	Somewhat limited Depth to saturated zone	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.72 0.50
CmC: Comly-----	80	Somewhat limited Depth to saturated zone Slope	0.72 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 0.72
CnB: Cookport-----	80	Somewhat limited Depth to saturated zone	0.39	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.39
CoA: Cookport-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to hard bedrock	1.00 0.13	Very limited Depth to saturated zone	1.00
CoB: Cookport-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to hard bedrock	1.00 0.61	Very limited Depth to saturated zone Slope	1.00 0.50
CpB: Cookport-----	70	Somewhat limited Depth to saturated zone	0.88	Very limited Depth to saturated zone Depth to hard bedrock	1.00 0.77	Somewhat limited Depth to saturated zone	0.88

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
CpD: Cookport-----	75	Very limited Slope Depth to saturated zone	1.00 0.88	Very limited Depth to saturated zone Slope Depth to hard bedrock	1.00 1.00 0.77	Very limited Slope Depth to saturated zone	1.00 0.88
Cr: Craigsville-----	75	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Fr: Freetown-----	85	Very limited Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00
GpB: Gilpin-----	75	Not limited		Somewhat limited Depth to soft bedrock	0.54	Somewhat limited Slope	0.12
GpC: Gilpin-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to soft bedrock	0.63 0.54	Very limited Slope	1.00
GwD: Gilpin-----	50	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.54	Very limited Slope	1.00
Wharton-----	30	Very limited Slope Depth to saturated zone Shrink-swell	1.00 0.62 0.50	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to saturated zone Shrink-swell	1.00 0.62 0.50
HeA: Hagerstown-----	75	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.88 0.50	Somewhat limited Shrink-swell	0.50
HeB: Hagerstown-----	75	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.88 0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
HeC: Hagerstown-----	80	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Depth to hard bedrock Slope Shrink-swell	0.88 0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
HfB: Hagerstown-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.88 0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
HgC: Hagerstown-----	60	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Depth to hard bedrock Slope Shrink-swell	0.96 0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
Opequon-----	30	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 1.00 0.63	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.63	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00
HhA: Hartleton-----	80	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content	0.82
HhB: Hartleton-----	80	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content	0.82	Somewhat limited Large stones content Slope	0.82 0.50
HhC: Hartleton-----	80	Somewhat limited Large stones content Slope	0.82 0.63	Somewhat limited Large stones content Slope	0.82 0.63	Very limited Slope Large stones content	1.00 0.82
HjC: Hazleton-----	75	Somewhat limited Slope	0.84	Somewhat limited Slope Depth to hard bedrock	0.84 0.01	Very limited Slope	1.00
HkE: Hazleton-----	80	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope	1.00
HlB: Clymer-----	40	Not limited		Somewhat limited Depth to hard bedrock	0.42	Somewhat limited Slope	0.50
Hazleton-----	40	Not limited		Somewhat limited Depth to hard bedrock	0.01	Somewhat limited Slope	0.50
HlC: Clymer-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to hard bedrock	0.63 0.42	Very limited Slope	1.00

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
H1C: Hazleton-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to hard bedrock	0.63 0.01	Very limited Slope	1.00
H1D: Clymer-----	40	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.42	Very limited Slope	1.00
Hazleton-----	40	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope	1.00
HmB: Hazleton-----	45	Not limited		Somewhat limited Depth to hard bedrock	0.01	Not limited	
Clymer-----	40	Not limited		Somewhat limited Depth to hard bedrock	0.42	Not limited	
HmD: Hazleton-----	50	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope	1.00
Clymer-----	30	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.42	Very limited Slope	1.00
HoF: Hazleton-----	35	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope	1.00
Laidig-----	35	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.94	Very limited Slope	1.00
HuB: Hustontown-----	75	Somewhat limited Depth to saturated zone	0.93	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.93 0.50
HuC: Hustontown-----	80	Somewhat limited Depth to saturated zone Slope	0.93 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 0.93

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
HuD: Hustontown-----	75	Very limited Slope Depth to saturated zone	1.00 0.93	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.93
KcD: Klinesville-----	80	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
KcE: Klinesville-----	80	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
KrA: Kreamer-----	80	Somewhat limited Depth to saturated zone Shrink-swell	0.90 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.90 0.50
LaB: Laidig-----	80	Not limited		Somewhat limited Depth to saturated zone	0.94	Somewhat limited Slope	0.50
LaC: Laidig-----	80	Somewhat limited Slope	0.63	Somewhat limited Depth to saturated zone Slope	0.94 0.63	Very limited Slope	1.00
LaD: Laidig-----	80	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.94	Very limited Slope	1.00
LdB: Laidig-----	80	Not limited		Somewhat limited Depth to saturated zone	0.94	Not limited	
LdC: Laidig-----	75	Somewhat limited Slope	0.84	Somewhat limited Depth to saturated zone Slope	0.94 0.84	Very limited Slope	1.00
LkB: Leck Kill-----	80	Not limited		Not limited		Somewhat limited Slope	0.50
LkC: Leck Kill-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
LkD: Leck Kill-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
LkE: Leck Kill-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
LmD: Leck Kill-----	80	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
LnB: Leetonia-----	75	Somewhat limited Large stones content	0.03	Somewhat limited Depth to hard bedrock Large stones content	0.61 0.03	Somewhat limited Large stones content	0.03
LnC: Leetonia-----	80	Somewhat limited Slope Large stones content	0.84 0.03	Somewhat limited Slope Depth to hard bedrock Large stones content	0.84 0.61 0.03	Very limited Slope Large stones content	1.00 0.03
Lo: Linden-----	75	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
Lr: Linden-----	80	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
MeB: Meckesville-----	80	Not limited		Somewhat limited Depth to saturated zone	0.95	Somewhat limited Slope	0.50
MeC: Meckesville-----	80	Somewhat limited Slope	0.63	Somewhat limited Depth to saturated zone Slope	0.95 0.63	Very limited Slope	1.00
MeD: Meckesville-----	80	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.95	Very limited Slope	1.00
MhD: Meckesville-----	80	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.95	Very limited Slope	1.00
Mn: Melvin-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
Mn: Newark-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
MoB: Morrison-----	80	Not limited		Not limited		Somewhat limited Slope	0.50
MoC: Morrison-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
MuA: Murrill-----	80	Not limited		Not limited		Not limited	
MuB: Murrill-----	75	Not limited		Not limited		Somewhat limited Slope	0.50
MuC: Murrill-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
MuD: Murrill-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
NoA: Nolo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
NsA: Nolo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
OeE: Opequon-----	80	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00
OhD: Opequon-----	70	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00
Hagerstown-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 0.88 0.50	Very limited Slope Shrink-swell	1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
OsD: Opequon-----	70	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00
Hagerstown-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 0.88 0.50	Very limited Slope Shrink-swell	1.00 0.50
PaE: Pennval-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Pb: Philo-----	75	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.99
Pc: Philo-----	45	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.99
Linden-----	40	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Pu: Purdy-----	80	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
TaB: Tilsit-----	80	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.99 0.12
TaC: Tilsit-----	80	Somewhat limited Depth to saturated zone Slope	0.99 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 0.99
TmA: Timberville-----	80	Very limited Flooding	1.00	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding	1.00
TmB: Timberville-----	80	Not limited		Somewhat limited Shrink-swell	0.50	Somewhat limited Slope	0.50
UnB: Ungers-----	75	Not limited		Not limited		Somewhat limited Slope	0.50
UnC: Ungers-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
UoB: Ungers-----	85	Not limited		Not limited		Not limited	
UoC: Ungers-----	80	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
UoE: Ungers-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
UpF: Ungers-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Meckesville-----	30	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.90	Very limited Slope	1.00
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock Slope	0.79 0.04	Very limited Slope	1.00
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to saturated zone	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.72

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to saturated zone Slope	0.72 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Slope Depth to saturated zone	1.00 0.72
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
WaA: Watson-----	80	Somewhat limited Depth to saturated zone Shrink-swell	0.93 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.93 0.50
WbB: Wharton-----	80	Somewhat limited Depth to saturated zone Shrink-swell	0.62 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.62 0.50 0.12
WbC: Wharton-----	80	Somewhat limited Slope Depth to saturated zone Shrink-swell	0.63 0.62 0.50	Very limited Depth to saturated zone Slope Shrink-swell	1.00 0.63 0.50	Very limited Slope Depth to saturated zone Shrink-swell	1.00 0.62 0.50
WeB: Wharton-----	80	Somewhat limited Depth to saturated zone Shrink-swell	0.62 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.62 0.50
WgB: Wharton-----	50	Somewhat limited Depth to saturated zone Shrink-swell	0.62 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.62 0.50
Cookport-----	30	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Depth to hard bedrock	1.00 0.13	Very limited Depth to saturated zone	1.00
WhA: Wheeling-----	80	Not limited		Not limited		Not limited	
WyA: Wyoming-----	85	Not limited		Not limited		Not limited	

Soil Survey of Clinton County, Pennsylvania

Table 13a.--Building Site Development (Part 1)--Continued

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
WyB: Wyoming-----	85	Not limited		Not limited		Somewhat limited Slope	0.50
ZoA: Zoar-----	80	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.39	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.39

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Table 13b.--Building Site Development (Part 2)

(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
AeB: Aeric Epiaquents----	80	Somewhat limited Depth to saturated zone Frost action Depth to hard bedrock	0.75 0.50 0.29	Very limited Depth to hard bedrock Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Droughty Depth to saturated zone Depth to bedrock Gravel content Large stones content	1.00 0.75 0.29 0.03 0.01
AfD: Allegheny-----	80	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.01
AgB: Allenwood-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Too clayey	1.00 0.12	Somewhat limited Large stones content	0.08
AgC: Allenwood-----	80	Somewhat limited Slope Frost action	0.63 0.50	Very limited Cutbanks cave Slope Too clayey	1.00 0.63 0.12	Somewhat limited Slope Large stones content	0.63 0.08
AgD: Allenwood-----	90	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Too clayey	1.00 1.00 0.12	Very limited Slope Large stones content	1.00 0.08
At: Atkins-----	75	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
Ba: Barbour-----	80	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Flooding Depth to saturated zone	1.00 0.60 0.35	Somewhat limited Flooding	0.60
Bb: Barbour-----	35	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.35	Not limited	
Craigsville-----	35	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave	1.00	Somewhat limited Large stones content	0.08

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Table 13b.--Building Site Development (Part 2)--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
Bc: Basher-----	80	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 0.19	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.19
BeB: Berks-----	75	Not limited		Somewhat limited Depth to soft bedrock Cutbanks cave	0.79 0.10	Very limited Droughty Depth to bedrock Gravel content Large stones content	0.99 0.80 0.65 0.01
BeC: Berks-----	80	Somewhat limited Slope	0.63	Somewhat limited Depth to soft bedrock Slope Cutbanks cave	0.79 0.63 0.10	Very limited Droughty Depth to bedrock Gravel content Slope Large stones content	0.99 0.80 0.65 0.63 0.01
BeD: Berks-----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock Cutbanks cave	1.00 0.79 0.10	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 0.99 0.80 0.65 0.01
Weikert-----	30	Very limited Slope Depth to soft bedrock Frost action	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.68 0.54
BeE: Berks-----	40	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock Cutbanks cave	1.00 0.95 0.10	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 0.95 0.65 0.01
Weikert-----	35	Very limited Slope Depth to soft bedrock Frost action	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.68 0.54

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Table 13b.--Building Site Development (Part 2)--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
EgA: Brinkerton-----	70	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty	1.00 0.92 0.01 0.01
BhB: Buchanan-----	75	Somewhat limited Frost action Depth to saturated zone	0.50 0.35	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.15 0.01
BhD: Buchanan-----	75	Very limited Slope Frost action Depth to saturated zone	1.00 0.50 0.35	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 1.00	Very limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	1.00 0.64 0.54 0.35 0.15
BmB: Buchanan-----	80	Somewhat limited Frost action Depth to saturated zone	0.50 0.35	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.20 0.01
BmC: Buchanan-----	75	Somewhat limited Slope Frost action Depth to saturated zone	0.84 0.50 0.35	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.84	Somewhat limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	0.84 0.64 0.54 0.35 0.20
BuB: Buchanan-----	45	Somewhat limited Frost action Depth to saturated zone	0.50 0.35	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.15 0.01

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Table 13b.--Building Site Development (Part 2)--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
BuB: Andover-----	40	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Depth to cemented pan Gravel content Droughty Large stones content	1.00 0.98 0.54 0.46 0.01
BuC: Buchanan-----	60	Somewhat limited Slope Frost action Depth to saturated zone	0.63 0.50 0.35	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.63	Somewhat limited Depth to cemented pan Slope Gravel content Depth to saturated zone Droughty	0.64 0.63 0.54 0.35 0.15
Andover-----	30	Very limited Depth to saturated zone Frost action Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content Droughty	1.00 0.98 0.63 0.54 0.46
BxB: Buchanan-----	45	Somewhat limited Frost action Depth to saturated zone	0.50 0.35	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to cemented pan Gravel content Depth to saturated zone Droughty Large stones content	0.64 0.54 0.35 0.20 0.01
Andover-----	30	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Depth to cemented pan Gravel content Droughty Large stones content	1.00 0.98 0.54 0.50 0.01
BxC: Buchanan-----	55	Somewhat limited Slope Frost action Depth to saturated zone	0.84 0.50 0.35	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.84	Somewhat limited Slope Depth to cemented pan Gravel content Depth to saturated zone Droughty	0.84 0.64 0.54 0.35 0.20

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Table 13b.--Building Site Development (Part 2)--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
BxC: Andover-----	20	Very limited Depth to saturated zone Frost action Slope	1.00 1.00 0.84	Very limited Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.84	Very limited Depth to saturated zone Depth to cemented pan Slope Gravel content Droughty	1.00 0.98 0.84 0.54 0.50
CaB: Calvin-----	75	Somewhat limited Large stones content Frost action	0.55 0.50	Somewhat limited Large stones content Depth to soft bedrock Cutbanks cave	0.55 0.42 0.10	Somewhat limited Droughty Depth to bedrock Large stones content	0.84 0.42 0.05
CaC: Calvin-----	75	Somewhat limited Slope Large stones content Frost action	0.63 0.55 0.50	Somewhat limited Slope Large stones content Depth to soft bedrock Cutbanks cave	0.63 0.55 0.42 0.10	Somewhat limited Droughty Slope Depth to bedrock Large stones content	0.84 0.63 0.42 0.05
CbC: Cedarcreek-----	85	Somewhat limited Large stones content Depth to saturated zone Slope	0.40 0.19 0.01	Very limited Depth to saturated zone Large stones content Cutbanks cave Slope	1.00 0.40 0.10 0.01	Very limited Droughty Large stones content Gravel content Depth to saturated zone Slope	1.00 1.00 0.97 0.19 0.01
CbD: Cedarcreek-----	85	Very limited Slope Large stones content Depth to saturated zone	1.00 1.00 0.19	Very limited Slope Depth to saturated zone Large stones content Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Slope Droughty Large stones content Depth to saturated zone	1.00 1.00 1.00 0.19
CbE: Cedarcreek-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 0.04
CcA: Chenango-----	80	Somewhat limited Frost action Large stones content	0.50 0.03	Very limited Cutbanks cave Large stones content	1.00 0.03	Somewhat limited Droughty Large stones content Gravel content	0.15 0.08 0.06

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Table 13b.--Building Site Development (Part 2)--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
CcB: Chenango-----	80	Somewhat limited Frost action Large stones content	0.50 0.03	Very limited Cutbanks cave Large stones content	1.00 0.03	Somewhat limited Droughty Large stones content Gravel content	0.15 0.08 0.06
CdB: Clymer-----	80	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
CdD: Clymer-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to hard bedrock Cutbanks cave	1.00 0.42 0.10	Very limited Slope Droughty	1.00 0.02
CeA: Clymer-----	80	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
CeB: Clymer-----	75	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
CeC: Clymer-----	80	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Depth to hard bedrock Cutbanks cave	0.63 0.42 0.10	Somewhat limited Slope Droughty	0.63 0.02
CfB: Clymer-----	70	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
CgB: Clymer-----	40	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
Cookport-----	35	Somewhat limited Depth to saturated zone Frost action	0.90 0.50	Very limited Depth to saturated zone Depth to hard bedrock Cutbanks cave	1.00 0.13 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Large stones content Droughty Gravel content	0.90 0.90 0.32 0.24 0.07

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Table 13b.--Building Site Development (Part 2)--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
ChB: Clymer-----	50	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
Hazleton-----	35	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave Depth to hard bedrock	0.10 0.01	Somewhat limited Large stones content	0.99
CmA: Comly-----	80	Somewhat limited Frost action Depth to saturated zone	0.50 0.39	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26
CmB: Comly-----	80	Somewhat limited Frost action Depth to saturated zone	0.50 0.39	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26
CmC: Comly-----	80	Somewhat limited Slope Frost action Depth to saturated zone	0.63 0.50 0.39	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Droughty	0.68 0.63 0.39 0.26
CnB: Cookport-----	80	Somewhat limited Frost action Depth to saturated zone	0.50 0.19	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
CoA: Cookport-----	80	Somewhat limited Depth to saturated zone Frost action	0.90 0.50	Very limited Depth to saturated zone Depth to hard bedrock Cutbanks cave	1.00 0.13 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.98 0.90 0.90
CoB: Cookport-----	80	Somewhat limited Depth to saturated zone Frost action	0.90 0.50	Very limited Depth to saturated zone Depth to hard bedrock Cutbanks cave	1.00 0.61 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.98 0.90 0.44

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
CpB: Cookport-----	70	Somewhat limited Depth to saturated zone Frost action	0.56 0.50	Very limited Depth to saturated zone Depth to hard bedrock Cutbanks cave	1.00 0.77 0.10	Somewhat limited Large stones content Depth to saturated zone Gravel content	0.95 0.56 0.01
CpD: Cookport-----	75	Very limited Slope Depth to saturated zone Frost action	1.00 0.56 0.50	Very limited Depth to saturated zone Slope Depth to hard bedrock Cutbanks cave	1.00 1.00 0.77 0.10	Very limited Slope Large stones content Depth to saturated zone Gravel content	1.00 0.95 0.56 0.01
Cr: Craigsville-----	75	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave	1.00	Somewhat limited Large stones content	0.08
Fr: Freetown-----	85	Very limited Ponding Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00	Not rated	
GpB: Gilpin-----	75	Somewhat limited Frost action	0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.54 0.10	Somewhat limited Depth to bedrock Droughty	0.54 0.17
GpC: Gilpin-----	75	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Depth to soft bedrock Cutbanks cave	0.63 0.54 0.10	Somewhat limited Slope Depth to bedrock Droughty	0.63 0.54 0.17
GwD: Gilpin-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to soft bedrock Cutbanks cave	1.00 0.54 0.10	Very limited Slope Depth to bedrock Droughty	1.00 0.54 0.17
Wharton-----	30	Very limited Slope Frost action Shrink-swell Depth to saturated zone	1.00 1.00 0.50 0.32	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to saturated zone	1.00 0.32
HeA: Hagerstown-----	75	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Too clayey Cutbanks cave	0.88 0.32 0.10	Somewhat limited Large stones content	0.03

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
HeB: Hagerstown-----	75	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Too clayey Cutbanks cave	0.88 0.32 0.10	Somewhat limited Large stones content	0.03
HeC: Hagerstown-----	80	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.63 0.50 0.50	Somewhat limited Depth to hard bedrock Slope Too clayey Cutbanks cave	0.88 0.32 0.63 0.32 0.10	Somewhat limited Slope Large stones content	0.63 0.03
HfB: Hagerstown-----	80	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Too clayey Cutbanks cave	0.88 0.32 0.10	Somewhat limited Large stones content	0.03
HgC: Hagerstown-----	60	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.63 0.50 0.50	Somewhat limited Depth to hard bedrock Slope Too clayey Cutbanks cave	0.96 0.63 0.32 0.10	Somewhat limited Slope Large stones content	0.63 0.03
Opequon-----	30	Very limited Depth to hard bedrock Shrink-swell Low strength Slope Frost action	1.00 1.00 1.00 0.63 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to bedrock Droughty Slope	1.00 0.93 0.63
HhA: Hartleton-----	80	Somewhat limited Large stones content Frost action	0.82 0.50	Somewhat limited Large stones content Cutbanks cave	0.82 0.10	Somewhat limited Large stones content Droughty	0.32 0.19
HhB: Hartleton-----	80	Somewhat limited Large stones content Frost action	0.82 0.50	Somewhat limited Large stones content Cutbanks cave	0.82 0.10	Somewhat limited Large stones content Droughty	0.32 0.19
HhC: Hartleton-----	80	Somewhat limited Large stones content Slope Frost action	0.82 0.63 0.50	Somewhat limited Large stones content Cutbanks cave	0.82 0.63 0.10	Somewhat limited Slope Large stones content Droughty	0.63 0.32 0.19
HjC: Hazleton-----	75	Somewhat limited Slope Frost action	0.84 0.50	Somewhat limited Slope Cutbanks cave Depth to hard bedrock	0.84 0.10 0.01	Somewhat limited Large stones content Slope	0.99 0.84

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
HkE: Hazleton-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 0.10 0.01	Very limited Slope Large stones content	1.00 0.99
HLB: Clymer-----	40	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
Hazleton-----	40	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave Depth to hard bedrock	0.10 0.01	Somewhat limited Large stones content	0.99
HLC: Clymer-----	40	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Depth to hard bedrock Cutbanks cave	0.63 0.42 0.10	Somewhat limited Slope Droughty	0.63 0.02
Hazleton-----	40	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Cutbanks cave Depth to hard bedrock	0.63 0.10 0.01	Somewhat limited Large stones content Slope	0.99 0.63
HLD: Clymer-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to hard bedrock Cutbanks cave	1.00 0.42 0.10	Very limited Slope Droughty	1.00 0.02
Hazleton-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 0.10 0.01	Very limited Slope Large stones content	1.00 0.99
HmB: Hazleton-----	45	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave Depth to hard bedrock	0.10 0.01	Somewhat limited Large stones content	0.99
Clymer-----	40	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Droughty	0.02
HmD: Hazleton-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 0.10 0.01	Very limited Slope Large stones content	1.00 0.99

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
HmD: Clymer-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to hard bedrock Cutbanks cave	1.00 0.42 0.10	Very limited Slope Droughty	1.00 0.02
HoF: Hazleton-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 0.10 0.01	Very limited Slope Large stones content	1.00 0.99
Laidig-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to saturated zone	1.00 1.00 0.94	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.03 0.01
HuB: Hustontown-----	75	Very limited Frost action Depth to saturated zone	1.00 0.64	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty Large stones content	0.84 0.64 0.01 0.01
HuC: Hustontown-----	80	Very limited Frost action Depth to saturated zone Slope	1.00 0.64 0.63	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Slope Droughty Large stones content	0.84 0.64 0.63 0.01 0.01
HuD: Hustontown-----	75	Very limited Slope Frost action Depth to saturated zone	1.00 1.00 0.64	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to saturated zone Droughty Large stones content	1.00 0.64 0.01 0.01
KcD: Klinesville-----	80	Very limited Slope Depth to soft bedrock Frost action	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
KcE: Klinesville-----	80	Very limited Slope Depth to soft bedrock Frost action	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01
KrA: Kreamer-----	80	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 0.78 0.60 0.50	Very limited Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02	Somewhat limited Depth to saturated zone	0.60
LaB: Laidig-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.94	Very limited Large stones content Gravel content Droughty	1.00 0.03 0.01
LaC: Laidig-----	80	Somewhat limited Slope Frost action	0.63 0.50	Very limited Cutbanks cave Depth to saturated zone Slope	1.00 0.94 0.63	Very limited Large stones content Slope Gravel content Droughty	1.00 0.63 0.03 0.01
LaD: Laidig-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave Depth to saturated zone	1.00 1.00 0.94	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.03 0.01
LdB: Laidig-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.94	Very limited Large stones content Gravel content Droughty	1.00 0.03 0.01
LdC: Laidig-----	75	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Depth to saturated zone Slope	1.00 0.94 0.84	Very limited Large stones content Slope Gravel content Droughty	1.00 0.84 0.03 0.01
LkB: Leck Kill-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content	0.05
LkC: Leck Kill-----	80	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope Gravel content	0.63 0.05

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
LkD: Leck Kill-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Gravel content	1.00 0.05
LkE: Leck Kill-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Gravel content	1.00 0.05
LmD: Leck Kill-----	80	Somewhat limited Slope Frost action	0.84 0.50	Somewhat limited Slope Cutbanks cave	0.84 0.10	Somewhat limited Slope Gravel content	0.84 0.05
LnB: Leetonia-----	75	Somewhat limited Large stones content	0.03	Very limited Cutbanks cave Depth to hard bedrock Large stones content	1.00 0.61 0.03	Very limited Droughty Large stones content Gravel content	1.00 1.00 0.03
LnC: Leetonia-----	80	Somewhat limited Slope Large stones content	0.84 0.03	Very limited Cutbanks cave Slope Depth to hard bedrock Large stones content	1.00 0.84 0.61 0.03	Very limited Too sandy Droughty Large stones content Slope Gravel content	1.00 1.00 1.00 0.84 0.03
Lo: Linden-----	75	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Flooding Depth to saturated zone	1.00 0.60 0.35	Somewhat limited Flooding	0.60
Lr: Linden-----	80	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.35	Not limited	
MeB: Meckesville-----	80	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.95 0.10	Somewhat limited Depth to cemented pan Large stones content	0.01 0.01
MeC: Meckesville-----	80	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	0.95 0.63 0.10	Somewhat limited Slope Depth to cemented pan Large stones content	0.63 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
MeD: Meckesville-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.95 0.10	Very limited Slope Depth to cemented pan Large stones content	1.00 0.01 0.01
MhD: Meckesville-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.95 0.10	Very limited Slope Depth to cemented pan Large stones content	1.00 0.01 0.01
Mn: Melvin-----	40	Very limited Depth to saturated zone Flooding Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60
Newark-----	40	Very limited Frost action Flooding Low strength Depth to saturated zone	1.00 1.00 1.00 0.92	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.92 0.60
MoB: Morrison-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content Large stones content	0.22 0.01
MoC: Morrison-----	80	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope Gravel content Large stones content	0.63 0.22 0.01
MuA: Murrill-----	80	Somewhat limited Frost action Low strength	0.50 0.22	Very limited Cutbanks cave	1.00	Not limited	
MuB: Murrill-----	75	Somewhat limited Frost action Low strength	0.50 0.22	Very limited Cutbanks cave	1.00	Not limited	
MuC: Murrill-----	75	Somewhat limited Slope Frost action Low strength	0.63 0.50 0.22	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope	0.63

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
MuD: Murrill-----	80	Very limited Slope Frost action Low strength	1.00 0.50 0.22	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00
NoA: Nolo-----	80	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty Gravel content	1.00 0.93 0.92 0.30 0.01
NsA: Nolo-----	80	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone Depth to cemented pan Large stones content Droughty Gravel content	1.00 0.93 0.92 0.30 0.01
OeE: Opequon-----	80	Very limited Depth to hard bedrock Slope Shrink-swell Low strength Frost action	1.00 1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93
OhD: Opequon-----	70	Very limited Depth to hard bedrock Slope Shrink-swell Low strength Frost action	1.00 1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93
Hagerstown-----	20	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Depth to hard bedrock Too clayey Cutbanks cave	1.00 0.88 0.32 0.10	Very limited Slope	1.00
OsD: Opequon-----	70	Very limited Depth to hard bedrock Slope Shrink-swell Low strength Frost action	1.00 1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.93

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
OsD: Hagerstown-----	20	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Depth to hard bedrock Too clayey Cutbanks cave	1.00 0.88 0.32 0.10	Very limited Slope	1.00
PaE: Pennval-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00
Pb: Philo-----	75	Very limited Flooding Depth to saturated zone Frost action	1.00 0.78 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.78 0.60
Pc: Philo-----	45	Very limited Flooding Depth to saturated zone Frost action	1.00 0.78 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.78 0.60
Linden-----	40	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Flooding Depth to saturated zone	1.00 0.60 0.35	Somewhat limited Flooding	0.60
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.80	Very limited Flooding Droughty Large stones content Gravel content	1.00 0.98 0.08 0.07
Pu: Purdy-----	80	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
TaA: Tilsit-----	80	Very limited Low strength Depth to saturated zone	1.00 0.81	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone	0.93 0.81
TaB: Tilsit-----	80	Very limited Low strength Depth to saturated zone	1.00 0.81	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone	0.93 0.81
TaC: Tilsit-----	80	Very limited Low strength Depth to saturated zone Slope	1.00 0.81 0.63	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Slope	0.93 0.81 0.63
TmA: Timberville-----	80	Somewhat limited Frost action Flooding	0.50 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
TmB: Timberville-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
UnB: Ungers-----	75	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
UnC: Ungers-----	80	Somewhat limited Slope Frost action	0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
UoB: Ungers-----	85	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Very limited Large stones content Gravel content	1.00 0.37
UoC: Ungers-----	80	Somewhat limited Slope Frost action	0.84 0.50	Somewhat limited Slope Cutbanks cave	0.84 0.10	Very limited Large stones content Slope Gravel content	1.00 0.84 0.37
UoE: Ungers-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
UpF: Ungers-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Large stones content Gravel content	1.00 1.00 0.37
Meckesville-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.90 0.10	Very limited Slope Depth to cemented pan Large stones content	1.00 0.10 0.01
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock Cutbanks cave Slope	0.79 0.10 0.04	Very limited Droughty Depth to bedrock Gravel content Slope Large stones content	0.99 0.80 0.65 0.04 0.01
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Frost action Depth to saturated zone	0.50 0.39	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.68 0.39 0.26
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Slope Frost action Depth to saturated zone	0.63 0.50 0.39	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to cemented pan Slope Depth to saturated zone Droughty	0.68 0.63 0.39 0.26
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Somewhat limited Frost action Flooding	0.50 0.20	Very limited Cutbanks cave Depth to saturated zone	1.00 0.35	Not limited	
WaA: Watson-----	80	Somewhat limited Depth to saturated zone Shrink-swell Frost action Low strength	0.64 0.50 0.50 0.22	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.84 0.64 0.05

Soil Survey of Clinton County, Pennsylvania

Table 13b.--Building Site Development (Part 2)--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
WbB: Wharton-----	80	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 0.50 0.32	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.32
WbC: Wharton-----	80	Very limited Frost action Slope Shrink-swell Depth to saturated zone	1.00 0.63 0.50 0.32	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Slope Depth to saturated zone	0.63 0.32
WeB: Wharton-----	80	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 0.50 0.32	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.32
WgB: Wharton-----	50	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 0.50 0.32	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.32
Cookport-----	30	Somewhat limited Depth to saturated zone Frost action	0.90 0.50	Very limited Depth to saturated zone Depth to hard bedrock Cutbanks cave	1.00 0.13 0.10	Somewhat limited Depth to cemented pan Depth to saturated zone Droughty	0.90 0.90 0.75
WhA: Wheeling-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
WyA: Wyoming-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Gravel content Droughty Large stones content	0.71 0.23 0.08
WyB: Wyoming-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Gravel content Droughty Large stones content	0.71 0.23 0.08
ZoA: Zoar-----	80	Very limited Low strength Shrink-swell Frost action Depth to saturated zone	1.00 0.50 0.50 0.19	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)

(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		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Very limited Depth to bedrock Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to saturated zone Slope Seepage	1.00 1.00 1.00 1.00 1.00
AfD: Allegheny-----	80	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
AgB: Allenwood-----	80	Somewhat limited Slow water movement	0.46	Somewhat limited Slope Seepage	0.92 0.53
AgC: Allenwood-----	80	Somewhat limited Slope Slow water movement	0.63 0.46	Very limited Slope Seepage	1.00 0.53
AgD: Allenwood-----	90	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
At: Atkins-----	75	Very limited Flooding Depth to saturated zone Seepage Slow water movement	1.00 1.00 1.00 0.78	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
Ba: Barbour-----	80	Very limited Flooding Filtering capacity Seepage Depth to saturated zone	1.00 1.00 1.00 0.84	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.17
Bb: Barbour-----	35	Very limited Filtering capacity Seepage Depth to saturated zone Flooding	1.00 1.00 0.84 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.17

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
Bb: Craigsville-----	35	Very limited Seepage Filtering capacity Flooding	1.00 1.00 0.40	Very limited Seepage Flooding Large stones content	1.00 0.40 0.01
Bc: Basher-----	80	Very limited Flooding Depth to saturated zone Seepage Slow water movement	1.00 1.00 1.00 0.72	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
BeB: Berks-----	75	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to soft bedrock Seepage Slope	1.00 1.00 0.92
BeC: Berks-----	80	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.63	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
BeD: Berks-----	45	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
Weikert-----	30	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
BeE: Berks-----	40	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
Weikert-----	35	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
BgA: Brinkerton-----	70	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Seepage	1.00 1.00 0.53

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
BhB: Buchanan-----	75	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
BhD: Buchanan-----	75	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
BmB: Buchanan-----	80	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Seepage Slope	1.00 1.00 0.53 0.32
BmC: Buchanan-----	75	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
BuB: Buchanan-----	45	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
Andover-----	40	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
BuC: Buchanan-----	60	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
BuC: Andover-----	30	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
BxB: Buchanan-----	45	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
Andover-----	30	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
BxC: Buchanan-----	55	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
Andover-----	20	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
CaB: Calvin-----	75	Very limited Depth to bedrock Seepage Large stones content	1.00 1.00 0.55	Very limited Depth to soft bedrock Seepage Large stones content Slope	1.00 1.00 1.00 1.00 0.68
CaC: Calvin-----	75	Very limited Depth to bedrock Seepage Slope Large stones content	1.00 1.00 0.63 0.55	Very limited Depth to soft bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
CbC: Cedarcreek-----	85	Very limited Depth to saturated zone Seepage Large stones content Slope	1.00 1.00 0.40 0.01	Very limited Seepage Depth to saturated zone Slope Large stones content	1.00 1.00 1.00 1.00
CbD: Cedarcreek-----	85	Very limited Depth to saturated zone Slope Large stones content Seepage	1.00 1.00 1.00 1.00 1.00	Very limited Slope Seepage Depth to saturated zone Large stones content	1.00 1.00 1.00 1.00
CbE: Cedarcreek-----	80	Very limited Slope Large stones content Seepage	1.00 1.00 1.00	Very limited Slope Seepage Large stones content	1.00 1.00 1.00
CcA: Chenango-----	80	Very limited Seepage Large stones content	1.00 0.03	Very limited Seepage	1.00
CcB: Chenango-----	80	Very limited Seepage Large stones content	1.00 0.03	Very limited Seepage Slope	1.00 0.92
CdB: Clymer-----	80	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.42
CdD: Clymer-----	80	Very limited Slope Depth to bedrock Slow water movement	1.00 0.78 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.42
CeA: Clymer-----	80	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Depth to hard bedrock	1.00 0.42
CeB: Clymer-----	75	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.42

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
CeC: Clymer-----	80	Somewhat limited Depth to bedrock Slope Slow water movement	0.78 0.63 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.42
CfB: Clymer-----	70	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Depth to hard bedrock Slope	1.00 0.42 0.32
CgB: Clymer-----	40	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Depth to hard bedrock Slope	1.00 0.42 0.32
Cookport-----	35	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.59	Very limited Depth to cemented pan Depth to saturated zone Seepage Slope Depth to hard bedrock	1.00 1.00 1.00 0.32 0.13
ChB: Clymer-----	50	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Depth to hard bedrock Slope	1.00 0.42 0.32
Hazleton-----	35	Very limited Seepage Filtering capacity Depth to bedrock	1.00 1.00 0.36	Very limited Seepage Slope Depth to hard bedrock	1.00 0.32 0.01
CmA: Comly-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.09	Very limited Depth to cemented pan Depth to saturated zone Seepage	1.00 1.00 0.53
CmB: Comly-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.09	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
CmC: Comly-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope Depth to bedrock	1.00 1.00 0.63 0.09	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
CnB: Cookport-----	80	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 0.27	Somewhat limited Depth to saturated zone Seepage Slope	0.75 0.53 0.32
CoA: Cookport-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.59	Very limited Depth to cemented pan Seepage Depth to saturated zone Depth to hard bedrock	1.00 1.00 1.00 0.13
CoB: Cookport-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.86	Very limited Depth to cemented pan Depth to saturated zone Slope Depth to hard bedrock Seepage	1.00 1.00 0.92 0.61 0.53
CpB: Cookport-----	70	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 0.91	Somewhat limited Depth to saturated zone Depth to hard bedrock Seepage Slope	0.96 0.77 0.53 0.32
CpD: Cookport-----	75	Very limited Slow water movement Depth to saturated zone Slope Depth to bedrock	1.00 1.00 1.00 0.91	Very limited Slope Depth to saturated zone Depth to hard bedrock Seepage	1.00 0.96 0.77 0.53
Cr: Craigsville-----	75	Very limited Seepage Filtering capacity Flooding	1.00 1.00 0.40	Very limited Seepage Flooding Large stones content	1.00 0.40 0.01

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
Fr: Freetown-----	85	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Ponding Organic matter content Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
GpB: Gilpin-----	75	Very limited Depth to bedrock Slow water movement	1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	1.00 0.68 0.53
GpC: Gilpin-----	75	Very limited Depth to bedrock Slope Slow water movement	1.00 0.63 0.46	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.53
GwD: Gilpin-----	50	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.53
Wharton-----	30	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.21
HeA: Hagerstown-----	75	Somewhat limited Depth to bedrock Slow water movement	0.96 0.46	Very limited Seepage Depth to hard bedrock	1.00 0.88
HeB: Hagerstown-----	75	Somewhat limited Depth to bedrock Slow water movement	0.96 0.46	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.88
HeC: Hagerstown-----	80	Somewhat limited Depth to bedrock Slope Slow water movement	0.96 0.63 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.88
HfB: Hagerstown-----	80	Somewhat limited Depth to bedrock Slow water movement	0.96 0.46	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.88

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
HgC: Hagerstown-----	60	Somewhat limited Depth to bedrock Slope Slow water movement	0.99 0.63 0.46	Very limited Slope Depth to hard bedrock Seepage	1.00 0.96 0.53
Opequon-----	30	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
HhA: Hartleton-----	80	Very limited Seepage Depth to bedrock Large stones content	1.00 0.86 0.82	Very limited Seepage Large stones content Depth to soft bedrock	1.00 0.96 0.61
HhB: Hartleton-----	80	Very limited Seepage Depth to bedrock Large stones content	1.00 0.86 0.82	Very limited Seepage Large stones content Slope Depth to soft bedrock	1.00 0.96 0.92 0.61
HhC: Hartleton-----	80	Very limited Seepage Depth to bedrock Large stones content Slope	1.00 0.86 0.82 0.63	Very limited Slope Seepage Large stones content Depth to soft bedrock	1.00 1.00 0.96 0.61
HjC: Hazleton-----	75	Very limited Seepage Filtering capacity Slope Depth to bedrock	1.00 1.00 0.84 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
HkE: Hazleton-----	80	Very limited Slope Seepage Filtering capacity Depth to bedrock	1.00 1.00 1.00 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
HLB: Clymer-----	40	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.42

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
H1B: Hazleton-----	40	Very limited Seepage Filtering capacity Depth to bedrock	1.00 1.00 0.36	Very limited Seepage Slope Depth to hard bedrock	1.00 0.92 0.01
H1C: Clymer-----	40	Somewhat limited Depth to bedrock Slope Slow water movement	0.78 0.63 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.42
Hazleton-----	40	Very limited Seepage Filtering capacity Slope Depth to bedrock	1.00 1.00 0.63 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
H1D: Clymer-----	40	Very limited Slope Depth to bedrock Slow water movement	1.00 0.78 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.42
Hazleton-----	40	Very limited Slope Seepage Filtering capacity Depth to bedrock	1.00 1.00 1.00 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
HmB: Hazleton-----	45	Very limited Seepage Filtering capacity Depth to bedrock	1.00 1.00 0.36	Very limited Seepage Slope Depth to hard bedrock	1.00 0.32 0.01
Clymer-----	40	Somewhat limited Depth to bedrock Slow water movement	0.78 0.46	Very limited Seepage Depth to hard bedrock Slope	1.00 0.42 0.32
HmD: Hazleton-----	50	Very limited Seepage Slope Filtering capacity Depth to bedrock	1.00 1.00 1.00 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
Clymer-----	30	Very limited Slope Depth to bedrock Slow water movement	1.00 0.78 0.46	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.42

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
HoF: Hazleton-----	35	Very limited Slope Seepage Filtering capacity Depth to bedrock	1.00 1.00 1.00 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.01
Laidig-----	35	Very limited Depth to saturated zone Slope Depth to cemented pan	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan Large stones content	1.00 1.00 1.00 0.99 0.08
HuB: Hustontown-----	75	Very limited Depth to cemented pan Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
HuC: Hustontown-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope Slow water movement	1.00 1.00 0.63 0.46	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
HuD: Hustontown-----	75	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.46	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.53
KcD: Klinesville-----	80	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
KcE: Klinesville-----	80	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
KrA: Kreamer-----	80	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
LaB: Laidig-----	80	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.99	Very limited Depth to saturated zone Seepage Depth to cemented pan Slope Large stones content	1.00 1.00 0.99 0.92 0.08
LaC: Laidig-----	80	Very limited Depth to saturated zone Depth to cemented pan Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan Large stones content	1.00 1.00 1.00 0.99 0.08
LaD: Laidig-----	80	Very limited Depth to saturated zone Slope Depth to cemented pan	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan Large stones content	1.00 1.00 1.00 0.99 0.08
LdB: Laidig-----	80	Very limited Depth to saturated zone Depth to cemented pan	1.00 0.99	Very limited Depth to saturated zone Seepage Depth to cemented pan Slope Large stones content	1.00 1.00 1.00 0.99 0.32 0.08
LdC: Laidig-----	75	Very limited Depth to saturated zone Depth to cemented pan Slope	1.00 0.99 0.84	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan Large stones content	1.00 1.00 1.00 0.99 0.08

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
LkB: Leck Kill-----	80	Very limited Seepage Depth to bedrock	1.00 0.99	Very limited Seepage Depth to soft bedrock Slope	1.00 0.96 0.92
LkC: Leck Kill-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.99 0.63	Very limited Slope Seepage Depth to soft bedrock	1.00 1.00 0.96
LkD: Leck Kill-----	80	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.99	Very limited Slope Seepage Depth to soft bedrock	1.00 1.00 0.96
LkE: Leck Kill-----	80	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.99	Very limited Slope Seepage Depth to soft bedrock	1.00 1.00 0.96
LmD: Leck Kill-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.99 0.84	Very limited Slope Seepage Depth to soft bedrock	1.00 1.00 0.96
LnB: Leetonia-----	75	Very limited Filtering capacity Seepage Depth to bedrock Large stones content	1.00 1.00 0.86 0.03	Very limited Seepage Depth to hard bedrock Slope Large stones content	1.00 0.61 0.32 0.30
LnC: Leetonia-----	80	Very limited Filtering capacity Seepage Depth to bedrock Slope Large stones content	1.00 1.00 0.86 0.84 0.03	Very limited Slope Seepage Depth to hard bedrock Large stones content	1.00 1.00 0.61 0.30
Lo: Linden-----	75	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.84	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.17

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
Lr: Linden-----	80	Very limited Seepage Depth to saturated zone Flooding	1.00 0.84 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.17
MeB: Meckesville-----	80	Very limited Depth to cemented pan Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.92 0.53
MeC: Meckesville-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope Slow water movement	1.00 1.00 0.63 0.46	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
MeD: Meckesville-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope Slow water movement	1.00 1.00 1.00 0.46	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
MhD: Meckesville-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope Slow water movement	1.00 1.00 1.00 0.46	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
Mn: Melvin-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
Newark-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
MoB: Morrison-----	80	Very limited Seepage	1.00	Very limited Seepage Slope	1.00 0.92
MoC: Morrison-----	80	Very limited Seepage Slope	1.00 0.63	Very limited Slope Seepage	1.00 1.00
MuA: Murrill-----	80	Somewhat limited Slow water movement	0.72	Somewhat limited Seepage	0.53
MuB: Murrill-----	75	Somewhat limited Slow water movement	0.72	Somewhat limited Slope Seepage	0.92 0.53
MuC: Murrill-----	75	Somewhat limited Slow water movement Slope	0.72 0.63	Very limited Slope Seepage	1.00 0.53
MuD: Murrill-----	80	Very limited Slope Slow water movement	1.00 0.72	Very limited Slope Seepage	1.00 0.53
NoA: Nolo-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.96	Very limited Depth to cemented pan Depth to saturated zone Depth to soft bedrock Seepage	1.00 1.00 0.88 0.53
NsA: Nolo-----	80	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.96	Very limited Depth to cemented pan Depth to saturated zone Depth to soft bedrock Seepage	1.00 1.00 0.88 0.53
OeE: Opequon-----	80	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
OhD: Opequon-----	70	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00 1.00
Hagerstown-----	20	Very limited Slope Depth to bedrock Slow water movement	1.00 0.96 0.46	Very limited Slope Depth to hard bedrock Seepage	1.00 0.88 0.53
OsD: Opequon-----	70	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00 1.00
Hagerstown-----	20	Very limited Slope Depth to bedrock Slow water movement	1.00 0.96 0.46	Very limited Slope Depth to hard bedrock Seepage	1.00 0.88 0.53
PaE: Pennval-----	80	Very limited Slope Slow water movement	1.00 1.00	Not rated	
Pb: Philo-----	75	Very limited Flooding Depth to saturated zone Seepage Slow water movement	1.00 1.00 1.00 0.46	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
Pc: Philo-----	45	Very limited Flooding Depth to saturated zone Seepage Slow water movement	1.00 1.00 1.00 0.46	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
Linden-----	40	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.84	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.17
Ps: Pits-----	80	Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
Pt: Potomac-----	85	Very limited Flooding Seepage Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Large stones content	1.00 1.00 0.04
Pu: Purdy-----	80	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
Qu: Quarry-----	100	Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated	
TaA: Tilsit-----	80	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Seepage	1.00 1.00 0.53
TaB: Tilsit-----	80	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope Seepage	1.00 1.00 0.68 0.53
TaC: Tilsit-----	80	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
TmA: Timberville-----	80	Somewhat limited Slow water movement Flooding	0.46 0.40	Somewhat limited Seepage Flooding	0.53 0.40
TmB: Timberville-----	80	Somewhat limited Slow water movement	0.46	Somewhat limited Slope Seepage	0.92 0.53

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
UnB: Ungers-----	75	Somewhat limited Depth to bedrock Slow water movement	0.86 0.46	Somewhat limited Slope Depth to soft bedrock Seepage	0.92 0.61 0.53
UnC: Ungers-----	80	Somewhat limited Depth to bedrock Slope Slow water movement	0.86 0.63 0.46	Very limited Slope Depth to soft bedrock Seepage	1.00 0.61 0.53
UoB: Ungers-----	85	Somewhat limited Depth to bedrock Slow water movement	0.86 0.46	Somewhat limited Depth to soft bedrock Seepage Slope	0.61 0.53 0.32
UoC: Ungers-----	80	Somewhat limited Depth to bedrock Slope Slow water movement	0.86 0.84 0.46	Very limited Slope Depth to soft bedrock Seepage	1.00 0.61 0.53
UoE: Ungers-----	80	Very limited Slope Depth to bedrock Slow water movement	1.00 0.86 0.46	Very limited Slope Depth to soft bedrock Seepage	1.00 0.61 0.53
UpF: Ungers-----	50	Very limited Slope Depth to bedrock Slow water movement	1.00 0.86 0.46	Very limited Slope Depth to soft bedrock Seepage	1.00 0.61 0.53
Meckesville-----	30	Very limited Depth to cemented pan Depth to saturated zone Slope Slow water movement	1.00 1.00 1.00 0.46	Very limited Depth to cemented pan Slope Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
UrC: Urban land-----	70	Not rated		Not rated	
Berks-----	20	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Seepage Slope	1.00 1.00 1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
UsB:					
Urban land-----	70	Not rated		Not rated	
Comly-----	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.09	Seepage	0.53
				Slope	0.32
UsC:					
Urban land-----	70	Not rated		Not rated	
Comly-----	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
		Depth to bedrock	0.09	Seepage	0.53
Ut:					
Urban land-----	70	Not rated		Not rated	
Linden-----	20	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Depth to saturated zone	0.84	Flooding	0.20
		Flooding	0.20	Depth to saturated zone	0.17
WaA:					
Watson-----	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Slow water movement	0.46	Seepage	0.53
WbB:					
Wharton-----	80	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slow water movement	1.00	Slope	0.68
		Depth to bedrock	0.09	Seepage	0.21
WbC:					
Wharton-----	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	0.86
		Slope	0.63	Seepage	0.21
		Depth to bedrock	0.09		

Soil Survey of Clinton County, Pennsylvania

Table 14a.--Sanitary Facilities (Part 1)--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
WeB: Wharton-----	80	Very limited Depth to saturated zone Slow water movement Depth to bedrock	1.00 1.00 0.09	Somewhat limited Depth to saturated zone Slope Seepage	0.86 0.32 0.21
WgB: Wharton-----	50	Very limited Depth to saturated zone Slow water movement Depth to bedrock	1.00 1.00 0.09	Somewhat limited Depth to saturated zone Slope Seepage	0.86 0.32 0.21
Cookport-----	30	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.59	Very limited Depth to cemented pan Seepage Depth to saturated zone Slope Depth to hard bedrock	1.00 1.00 1.00 0.32 0.13
WhA: Wheeling-----	80	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage	1.00
WyA: Wyoming-----	85	Very limited Filtering capacity Seepage	1.00 1.00	Very limited Seepage	1.00
WyB: Wyoming-----	85	Very limited Filtering capacity Seepage	1.00 1.00	Very limited Seepage Slope	1.00 0.92
ZoA: Zoar-----	80	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.75

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)

(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
AeB: Aeric Epiaquents----	80	Very limited Depth to saturated zone Depth to bedrock Seepage Too clayey	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Depth to bedrock Seepage	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to saturated zone Too clayey Seepage Gravel content	1.00 0.99 0.50 0.16 0.03
AfD: Allegheny-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
AgB: Allenwood-----	80	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
AgC: Allenwood-----	80	Very limited Too clayey Slope	1.00 0.63	Somewhat limited Slope	0.63	Very limited Too clayey Slope	1.00 0.63
AgD: Allenwood-----	90	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 1.00
At: Atkins-----	75	Very limited Flooding Depth to saturated zone Seepage Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50 0.50
Ba: Barbour-----	80	Very limited Flooding Depth to saturated zone Seepage Too sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.48
Bb: Barbour-----	35	Very limited Depth to saturated zone Seepage Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.48
Craigsville-----	35	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Gravel content	1.00 0.97

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
Bc: Basher-----	80	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.86
BeB: Berks-----	75	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Gravel content Seepage	1.00 0.95 0.52
BeC: Berks-----	80	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.63	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.63	Very limited Depth to bedrock Gravel content Slope Seepage	1.00 0.95 0.63 0.52
BeD: Berks-----	45	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.95 0.52
Weikert-----	30	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.91 0.52
BeE: Berks-----	40	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.95 0.52
Weikert-----	35	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.95 0.52
BgA: Brinkerton-----	70	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00
BhB: Buchanan-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.93 0.11

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
BhD: Buchanan-----	75	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone Gravel content	1.00 1.00 0.93 0.11
BmB: Buchanan-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.93 0.07
BmC: Buchanan-----	75	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Depth to saturated zone Slope Gravel content	1.00 0.93 0.84 0.07
BuB: Buchanan-----	45	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.93 0.11
Andover-----	40	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Too clayey	1.00 1.00 0.50
BuC: Buchanan-----	60	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope Gravel content	1.00 0.93 0.63 0.11
Andover-----	30	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope Too clayey	1.00 1.00 0.63 0.50

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
BxB: Buchanan-----	45	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.93 0.07
Andover-----	30	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Too clayey	1.00 1.00 0.50
BxC: Buchanan-----	55	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Depth to saturated zone Slope Gravel content	1.00 0.93 0.84 0.07
Andover-----	20	Very limited Depth to saturated zone Slope Too clayey	1.00 0.84 0.50	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.84	Very limited Depth to cemented pan Depth to saturated zone Slope Too clayey	1.00 1.00 0.84 0.50
CaB: Calvin-----	75	Very limited Depth to bedrock Seepage Large stones content	1.00 1.00 0.55	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Gravel content Large stones content Seepage	1.00 0.61 0.55 0.52
CaC: Calvin-----	75	Very limited Depth to bedrock Seepage Slope Large stones content	1.00 1.00 0.63 0.55	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.63	Very limited Depth to bedrock Slope Gravel content Large stones content Seepage	1.00 0.63 0.61 0.55 0.52
CbC: Cedarcreek-----	85	Very limited Depth to saturated zone Seepage Too clayey Large stones content Slope	1.00 1.00 0.50 0.37 0.01	Very limited Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited Seepage Gravel content Depth to saturated zone Too clayey Large stones content	1.00 0.88 0.86 0.50 0.37

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
CbD: Cedarcreek-----	85	Very limited Depth to saturated zone Slope Seepage Large stones content Too clayey	1.00 1.00 1.00 0.89 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Slope Seepage Large stones content Depth to saturated zone Too clayey	1.00 1.00 0.89 0.86 0.50
CbE: Cedarcreek-----	80	Very limited Slope Seepage Large stones content Too clayey	1.00 1.00 0.89 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Large stones content Gravel content Too clayey	1.00 1.00 0.89 0.50 0.50
CcA: Chenango-----	80	Very limited Seepage Large stones content Too sandy	1.00 0.72 0.50	Very limited Seepage	1.00	Very limited Seepage Large stones content Too sandy Gravel content	1.00 0.72 0.50 0.01
CcB: Chenango-----	80	Very limited Seepage Large stones content Too sandy	1.00 0.72 0.50	Very limited Seepage	1.00	Very limited Seepage Large stones content Too sandy Gravel content	1.00 0.72 0.50 0.01
CdB: Clymer-----	80	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
CdD: Clymer-----	80	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.42	Very limited Slope Depth to bedrock Gravel content	1.00 0.42 0.01
CeA: Clymer-----	80	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
CeB: Clymer-----	75	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
CeC: Clymer-----	80	Very limited Depth to bedrock Slope	1.00 0.63	Somewhat limited Slope Depth to bedrock	0.63 0.42	Somewhat limited Slope Depth to bedrock Gravel content	0.63 0.42 0.01

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
CfB: Clymer-----	70	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
CgB: Clymer-----	40	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
Cookport-----	35	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14
ChB: Clymer-----	50	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
Hazleton-----	35	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 0.01	Very limited Seepage Depth to bedrock Gravel content	1.00 0.01 0.01
CmA: Comly-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.94 0.17
CmB: Comly-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.94 0.17
CmC: Comly-----	80	Very limited Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope Gravel content	1.00 0.94 0.63 0.17
CnB: Cookport-----	80	Very limited Depth to bedrock Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.86

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
CoA: Cookport-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14
CoB: Cookport-----	80	Very limited Depth to saturated zone Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.61	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock Too clayey	1.00 1.00 0.61 0.50
CpB: Cookport-----	70	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Somewhat limited Depth to saturated zone Depth to bedrock	0.96 0.77	Somewhat limited Depth to saturated zone Depth to bedrock	0.98 0.77
CpD: Cookport-----	75	Very limited Depth to saturated zone Depth to bedrock Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Depth to bedrock	1.00 0.96 0.77	Very limited Slope Depth to saturated zone Depth to bedrock	1.00 0.98 0.77
Cr: Craigsville-----	75	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Gravel content	1.00 0.97
Fr: Freetown-----	85	Very limited Depth to saturated zone Ponding Organic matter content Seepage	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Organic matter content Seepage	1.00 1.00 1.00 0.22
GpB: Gilpin-----	75	Very limited Depth to bedrock Too clayey	1.00 0.50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey	1.00 0.50
GpC: Gilpin-----	75	Very limited Depth to bedrock Slope Too clayey	1.00 0.63 0.50	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope Too clayey	1.00 0.63 0.50
GwD: Gilpin-----	50	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
GwD: Wharton-----	30	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.92
HeA: Hagerstown-----	75	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.88	Very limited Too clayey Hard to compact Depth to bedrock	1.00 1.00 0.88
HeB: Hagerstown-----	75	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.88	Very limited Too clayey Hard to compact Depth to bedrock	1.00 1.00 0.88
HeC: Hagerstown-----	80	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.63	Somewhat limited Depth to bedrock Slope	0.88 0.63	Very limited Too clayey Hard to compact Depth to bedrock Slope	1.00 1.00 0.88 0.63
HfB: Hagerstown-----	80	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.88	Very limited Too clayey Hard to compact Depth to bedrock	1.00 1.00 0.88
HgC: Hagerstown-----	60	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.63	Somewhat limited Depth to bedrock Slope	0.96 0.63	Very limited Too clayey Hard to compact Depth to bedrock Slope	1.00 1.00 0.96 0.63
Opequon-----	30	Very limited Depth to bedrock Slope Too clayey	1.00 0.63 0.50	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.63	Very limited Depth to bedrock Hard to compact Slope Too clayey	1.00 1.00 0.63 0.50
HhA: Hartleton-----	80	Very limited Depth to bedrock Seepage Large stones content	1.00 1.00 0.98	Very limited Seepage Depth to bedrock	1.00 0.61	Somewhat limited Large stones content Depth to bedrock Seepage	0.98 0.61 0.22
HhB: Hartleton-----	80	Very limited Depth to bedrock Seepage Large stones content	1.00 1.00 0.98	Very limited Seepage Depth to bedrock	1.00 0.61	Somewhat limited Large stones content Depth to bedrock Seepage	0.98 0.61 0.22

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
HhC: Hartleton-----	80	Very limited Depth to bedrock Seepage Large stones content Slope	1.00 1.00 0.98 0.63	Very limited Seepage Slope Depth to bedrock	1.00 0.63 0.61	Somewhat limited Large stones content Slope Depth to bedrock Seepage	0.98 0.63 0.61 0.22
HjC: Hazleton-----	75	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.84	Very limited Seepage Slope Depth to bedrock	1.00 0.84 0.01	Very limited Seepage Slope Depth to bedrock Gravel content	1.00 0.84 0.01 0.01
HkE: Hazleton-----	80	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.01	Very limited Slope Seepage Depth to bedrock Gravel content	1.00 1.00 0.01 0.01
HlB: Clymer-----	40	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
Hazleton-----	40	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 0.01	Very limited Seepage Depth to bedrock Gravel content	1.00 0.01 0.01
HlC: Clymer-----	40	Very limited Depth to bedrock Slope	1.00 0.63	Somewhat limited Slope Depth to bedrock	0.63 0.42	Somewhat limited Slope Depth to bedrock Gravel content	0.63 0.42 0.01
Hazleton-----	40	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.63	Very limited Seepage Slope Depth to bedrock	1.00 0.63 0.01	Very limited Seepage Slope Depth to bedrock Gravel content	1.00 0.63 0.01 0.01
HlD: Clymer-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.42	Very limited Slope Depth to bedrock Gravel content	1.00 0.42 0.01
Hazleton-----	40	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.01	Very limited Slope Seepage Depth to bedrock Gravel content	1.00 1.00 0.01 0.01
HmB: Hazleton-----	45	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 0.01	Very limited Seepage Depth to bedrock Gravel content	1.00 0.01 0.01

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
HmB: Clymer-----	40	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.42	Somewhat limited Depth to bedrock Gravel content	0.42 0.01
HmD: Hazleton-----	50	Very limited Depth to bedrock Seepage Slope	1.00 1.00 1.00	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.01	Very limited Seepage Slope Depth to bedrock Gravel content	1.00 1.00 0.01 0.01
Clymer-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.42	Very limited Slope Depth to bedrock Gravel content	1.00 0.42 0.01
HoF: Hazleton-----	35	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.01	Very limited Slope Seepage Depth to bedrock Gravel content	1.00 1.00 0.01 0.01
Laidig-----	35	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan	1.00 1.00 1.00 0.99	Very limited Slope Depth to cemented pan Seepage Depth to saturated zone Gravel content	1.00 0.99 0.22 0.07 0.01
HuB: Hustontown-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 0.99
HuC: Hustontown-----	80	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 0.99 0.63
HuD: Hustontown-----	75	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.99
KcD: Klinesville-----	80	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage Gravel content	1.00 1.00 0.52 0.12

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
KcE: Klinesville-----	80	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage Gravel content	1.00 1.00 0.52 0.12
KrA: Kreamer-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.99 0.50
LaB: Laidig-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Seepage Depth to cemented pan	1.00 1.00 0.99	Somewhat limited Depth to cemented pan Seepage Depth to saturated zone Gravel content	0.99 0.22 0.07 0.01
LaC: Laidig-----	80	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Seepage Depth to cemented pan Slope	1.00 1.00 0.99 0.63	Somewhat limited Depth to cemented pan Slope Seepage Depth to saturated zone Gravel content	0.99 0.63 0.22 0.07 0.01
LaD: Laidig-----	80	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone Seepage Depth to cemented pan	1.00 1.00 1.00 0.99	Very limited Slope Depth to cemented pan Seepage Depth to saturated zone Gravel content	1.00 0.99 0.22 0.07 0.01
LdB: Laidig-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Seepage Depth to cemented pan	1.00 1.00 0.99	Somewhat limited Depth to cemented pan Seepage Depth to saturated zone Gravel content	0.99 0.22 0.07 0.01
LdC: Laidig-----	75	Very limited Depth to saturated zone Slope	1.00 0.84	Very limited Depth to saturated zone Seepage Depth to cemented pan Slope	1.00 1.00 0.99 0.84	Somewhat limited Depth to cemented pan Slope Seepage Depth to saturated zone Gravel content	0.99 0.84 0.22 0.07 0.01

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
LkB: Leck Kill-----	80	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 0.96	Somewhat limited Depth to bedrock Seepage Gravel content	0.96 0.22 0.11
LkC: Leck Kill-----	80	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.63	Very limited Seepage Depth to bedrock Slope	1.00 0.96 0.63	Somewhat limited Depth to bedrock Slope Seepage Gravel content	0.96 0.63 0.22 0.11
LkD: Leck Kill-----	80	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.96	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 0.96 0.22 0.11
LkE: Leck Kill-----	80	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.96	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 0.96 0.22 0.11
LmD: Leck Kill-----	80	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.84	Very limited Seepage Depth to bedrock Slope	1.00 0.96 0.84	Somewhat limited Depth to bedrock Slope Seepage Gravel content	0.96 0.84 0.22 0.12
LnB: Leetonia-----	75	Very limited Depth to bedrock Seepage Too sandy Large stones content	1.00 1.00 1.00 0.03	Very limited Seepage Depth to bedrock	1.00 0.61	Very limited Too sandy Seepage Depth to bedrock Gravel content Large stones content	1.00 1.00 0.61 0.12 0.03
LnC: Leetonia-----	80	Very limited Depth to bedrock Seepage Too sandy Slope Large stones content	1.00 1.00 1.00 0.84 0.03	Very limited Seepage Slope Depth to bedrock	1.00 0.84 0.61	Very limited Too sandy Seepage Slope Depth to bedrock Gravel content	1.00 1.00 0.84 0.61 0.12
Lo: Linden-----	75	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Somewhat limited Seepage	0.52

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
Lr: Linden-----	80	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Somewhat limited Seepage	0.52
MeB: Meckesville-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 0.11
MeC: Meckesville-----	80	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 0.63 0.11
MeD: Meckesville-----	80	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 1.00 0.11
MhD: Meckesville-----	80	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 1.00 0.11
Mn: Melvin-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
Newark-----	40	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
MoB: Morrison-----	80	Very limited Seepage Too clayey	1.00 0.50	Very limited Seepage	1.00	Somewhat limited Too clayey Seepage	0.50 0.22
MoC: Morrison-----	80	Very limited Seepage Slope Too clayey	1.00 0.63 0.50	Very limited Seepage Slope	1.00 0.63	Somewhat limited Slope Too clayey Seepage	0.63 0.50 0.22

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
MuA: Murrill-----	80	Not limited		Not limited		Somewhat limited Gravel content	0.01
MuB: Murrill-----	75	Not limited		Not limited		Somewhat limited Gravel content	0.01
MuC: Murrill-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope Gravel content	0.63 0.01
MuD: Murrill-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.01
NoA: Nolo-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.88	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.88
NsA: Nolo-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.88	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.88
OeE: Opequon-----	80	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope Hard to compact Too clayey	1.00 1.00 1.00 0.50
OhD: Opequon-----	70	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope Hard to compact Too clayey	1.00 1.00 1.00 0.50
Hagerstown-----	20	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.88	Very limited Slope Too clayey Hard to compact Depth to bedrock	1.00 1.00 1.00 0.88
OsD: Opequon-----	70	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope Hard to compact Too clayey	1.00 1.00 1.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
OsD: Hagerstown-----	20	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.88	Very limited Slope Too clayey Hard to compact Depth to bedrock	1.00 1.00 1.00 0.88
PaE: Pennval-----	80	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Not rated	
Pb: Philo-----	75	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
Pc: Philo-----	45	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
Linden-----	40	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Somewhat limited Seepage	0.52
Ps: Pits-----	80	Not rated		Very limited Slope	1.00	Not rated	
Pt: Potomac-----	85	Very limited Flooding Seepage Too sandy	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 1.00
Pu: Purdy-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Not rated	
Rubble land-----	30	Not rated		Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.99	Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
Rb: Rubble land-----	75	Not rated		Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.99	Not rated	
TaA: Tilsit-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Too clayey	1.00 1.00 0.50
TaB: Tilsit-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Too clayey	1.00 1.00 0.50
TaC: Tilsit-----	80	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope Too clayey	1.00 1.00 0.63 0.50
TmA: Timberville-----	80	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Very limited Hard to compact Too clayey	1.00 0.50
TmB: Timberville-----	80	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact Too clayey	1.00 0.50
UnB: Ungers-----	75	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.61	Somewhat limited Gravel content Depth to bedrock Too clayey	0.86 0.61 0.50
UnC: Ungers-----	80	Very limited Depth to bedrock Slope Too clayey	1.00 0.63 0.50	Somewhat limited Slope Depth to bedrock	0.63 0.61	Somewhat limited Gravel content Slope Depth to bedrock Too clayey	0.86 0.63 0.61 0.50
UoB: Ungers-----	85	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.61	Somewhat limited Gravel content Depth to bedrock Too clayey	0.99 0.61 0.50

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Table 14b.--Sanitary Facilities (Part 2)--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
UoC: Ungers-----	80	Very limited Depth to bedrock Slope Too clayey	1.00 0.84 0.50	Somewhat limited Slope Depth to bedrock	0.84 0.61	Somewhat limited Gravel content Slope Depth to bedrock Too clayey	0.99 0.84 0.61 0.50
UoE: Ungers-----	80	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 0.61	Very limited Slope Gravel content Depth to bedrock Too clayey	1.00 0.99 0.61 0.50
UpF: Ungers-----	50	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 0.61	Very limited Slope Gravel content Depth to bedrock Too clayey	1.00 0.99 0.61 0.50
UpF: Meckesville-----	30	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Depth to saturated zone	1.00 1.00 0.02
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.04	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.04	Very limited Depth to bedrock Gravel content Seepage Slope	1.00 0.95 0.52 0.04
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Gravel content	1.00 0.94 0.17
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Very limited Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Depth to cemented pan Depth to saturated zone Slope Gravel content	1.00 0.94 0.63 0.17
Ut: Urban land-----	70	Not rated		Not rated		Not rated	

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Table 14b.--Sanitary Facilities (Part 2)--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
Ut: Linden-----	20	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.20	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.20	Somewhat limited Seepage	0.52
WaA: Watson-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	1.00 0.98	Very limited Depth to cemented pan Depth to saturated zone Too clayey	1.00 0.99 0.50
WbB: Wharton-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.92
WbC: Wharton-----	80	Very limited Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.63	Somewhat limited Depth to saturated zone Slope	0.86 0.63	Somewhat limited Depth to saturated zone Slope	0.92 0.63
WeB: Wharton-----	80	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.92
WgB: Wharton-----	50	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.92
Cookport-----	30	Very limited Depth to saturated zone Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14	Very limited Depth to cemented pan Depth to saturated zone Depth to bedrock	1.00 1.00 0.14
WhA: Wheeling-----	80	Very limited Seepage	1.00	Not limited		Not limited	
WyA: Wyoming-----	85	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Seepage Gravel content	1.00 0.96
WyB: Wyoming-----	85	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Seepage Gravel content	1.00 0.96

Soil Survey of Clinton County, Pennsylvania

Table 14b.--Sanitary Facilities (Part 2)--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
ZoA: Zoar-----	80	Very limited Depth to saturated zone Too clayey	0.99 0.50	Somewhat limited Depth to saturated zone	0.75	Very limited Hard to compact Depth to saturated zone Too clayey	1.00 0.86 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)

(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
AeB: Aeric Epiaquents----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AfD: Allegheny-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AgB: Allenwood-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AgC: Allenwood-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AgD: Allenwood-----	90	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
At: Atkins-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ba: Barbour-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.38
Bb: Barbour-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.38
Craigsville-----	35	Fair Thickest layer Bottom layer	0.00 0.50	Fair Thickest layer Bottom layer	0.00 0.02
Bc: Basher-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.59
BeB: Berks-----	75	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BeC: Berks-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BeD: Berks-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Weikert-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BeE: Berks-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Weikert-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BgA: Brinkerton-----	70	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BhB: Buchanan-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BhD: Buchanan-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BmB: Buchanan-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BmC: Buchanan-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BuB: Buchanan-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Andover-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BuC: Buchanan-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BuC: Andover-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BxB: Buchanan-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Andover-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
BxC: Buchanan-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Andover-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CaB: Calvin-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CaC: Calvin-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CbC: Cedarcreek-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CbD: Cedarcreek-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CbE: Cedarcreek-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CcA: Chenango-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
CcB: Chenango-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
CdB: Clymer-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CdD: Clymer-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CeA: Clymer-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CeB: Clymer-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CeC: Clymer-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CfB: Clymer-----	70	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CgB: Clymer-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cookport-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
ChB: Clymer-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hazleton-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CmA: Comly-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CmB: Comly-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CmC: Comly-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CnB: Cookport-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CoA: Cookport-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
CoB: Cookport-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
CpB: Cookport-----	70	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
CpD: Cookport-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Cr: Craigs ville-----	75	Fair Thickest layer Bottom layer	 0.00 0.50	Fair Thickest layer Bottom layer	 0.00 0.02
Fr: Freetown-----	85	Not rated		Poor Bottom layer Thickest layer Organic matter content	 0.00 0.00 0.00
GpB: Gilpin-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
GpC: Gilpin-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
GwD: Gilpin-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Wharton-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HeA: Hagerstown-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HeB: Hagerstown-----	75	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HeC: Hagerstown-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HfB: Hagerstown-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HgC: Hagerstown-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Opequon-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhA: Hartleton-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhB: Hartleton-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhC: Hartleton-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HjC: Hazleton-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HkE: Hazleton-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HLB: Clymer-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hazleton-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HLc: Clymer-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hazleton-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HLD: Clymer-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hazleton-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HmB: Hazleton-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Clymer-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HmD: Hazleton-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Clymer-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HoF: Hazleton-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Laidig-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HuB: Hustontown-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HuC: Hustontown-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
HuD: Hustontown-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
KcD: Klinesville-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
KcE: Klinesville-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
KrA: Kreamer-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LaB: Laidig-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LaC: Laidig-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LaD: Laidig-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LdB: Laidig-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LdC: Laidig-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LkB: Leck Kill-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LkC: Leck Kill-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LkD: Leck Kill-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LkE: Leck Kill-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LmD: Leck Kill-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LnB: Leetonia-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.14 0.14
LnC: Leetonia-----	80	Not rated		Not rated	

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Lo: Linden-----	75	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Lr: Linden-----	80	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
MeB: Meckesville-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MeC: Meckesville-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MeD: Meckesville-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
MhD: Meckesville-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Mn: Melvin-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Newark-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MoB: Morrison-----	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
MoC: Morrison-----	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
MuA: Murrill-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
MuB: Murrill-----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MuC: Murrill-----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
MuD: Murrill-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
NoA: Nolo-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
NsA: Nolo-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
OeE: Opequon-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
OhD: Opequon-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hagerstown-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
OsD: Opequon-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Hagerstown-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
PaE: Pennval-----	80	Not rated		Not rated	
Pb: Philo-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pc: Philo-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Linden-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Ps: Pits-----	80	Not rated		Not rated	
Pt: Potomac-----	85	Fair Thickest layer Bottom layer	0.00 0.28	Fair Thickest layer Bottom layer	0.04 0.29

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Pu: Purdy-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Qu: Quarry-----	100	Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated	
TaA: Tilsit-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
TaB: Tilsit-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
TaC: Tilsit-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
TmA: Timberville-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
TmB: Timberville-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
UnB: Ungers-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
UnC: Ungers-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
UoB: Ungers-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
UoC: Ungers-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
UoE:					
Ungers-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
UpF:					
Ungers-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Meckesville-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UrC:					
Urban land-----	70	Not rated		Not rated	
Berks-----	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
UsB:					
Urban land-----	70	Not rated		Not rated	
Comly-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UsC:					
Urban land-----	70	Not rated		Not rated	
Comly-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ut:					
Urban land-----	70	Not rated		Not rated	
Linden-----	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
WaA:					
Watson-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WbB:					
Wharton-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WbC:					
Wharton-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
WeB:					
Wharton-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Clinton County, Pennsylvania

Table 15a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
WgB: Wharton-----	50	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Cookport-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
WhA: Wheeling-----	80	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
WyA: Wyoming-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.12	Bottom layer	0.10
WyB: Wyoming-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.12	Bottom layer	0.10
ZoA: Zoar-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)

(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
AeB: Aeric Epiaquents----	80	Poor Droughty Too acid Depth to bedrock	0.00 0.50 0.71	Poor Depth to bedrock Wetness depth	0.00 0.14	Poor Rock fragments Wetness depth Depth to bedrock Too acid	0.00 0.14 0.71 0.95
AfD: Allegheny-----	80	Fair Organic matter content low Too acid	0.12 0.50	Fair Slope	0.92	Poor Slope Rock fragments Too acid	0.00 0.12 0.88
AgB: Allenwood-----	80	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.97	Good		Poor Too clayey Rock fragments	0.00 0.00
AgC: Allenwood-----	80	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.97	Good		Poor Too clayey Rock fragments Slope	0.00 0.00 0.37
AgD: Allenwood-----	90	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.97	Fair Slope	0.50	Poor Slope Too clayey Rock fragments	0.00 0.00 0.00
At: Atkins-----	75	Fair Too acid Organic matter content low	0.32 0.32	Poor Wetness depth	0.00	Poor Wetness depth Too acid Hard to reclaim (rock fragments)	0.00 0.88 0.95
Ba: Barbour-----	80	Poor Too sandy Organic matter content low Too acid Droughty	0.00 0.18 0.50 0.96	Good		Poor Too sandy Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.00 0.88
Eb: Barbour-----	35	Poor Too sandy Organic matter content low Too acid Droughty	0.00 0.18 0.50 0.96	Good		Poor Too sandy Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.00 0.88

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
Bb: Craigsville-----	35	Fair Stone content Too acid Organic matter content low Droughty	0.30 0.50 0.88 0.99	Fair Stone content	0.52	Poor Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.88
Bc: Basher-----	80	Fair Too acid	0.20	Fair Wetness depth	0.53	Fair Wetness depth Too acid Rock fragments	0.53 0.76 0.88
BeB: Berks-----	75	Poor Droughty Organic matter content low Depth to bedrock Too acid	0.00 0.12 0.21 0.50	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Too acid	0.00 0.21 0.50
BeC: Berks-----	80	Poor Droughty Organic matter content low Depth to bedrock Too acid	0.00 0.12 0.21 0.50	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Slope Too acid	0.00 0.21 0.37 0.50
BeD: Berks-----	45	Poor Droughty Organic matter content low Depth to bedrock Too acid	0.00 0.12 0.21 0.50	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.21 0.50
Weikert-----	30	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.12 0.54	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.00 0.98
BeE: Berks-----	40	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.05 0.12 0.50	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.05 0.50
Weikert-----	35	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.12 0.54	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.00 0.98

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
BgA: Brinkerton-----	70	Fair Organic matter content low Droughty Too acid Water erosion	0.12 0.24 0.54 0.99	Poor Wetness depth Low strength Shrink-swell	0.00 0.00 0.87	Poor Wetness depth Too acid	0.00 0.98
BhB: Buchanan-----	75	Fair Droughty Organic matter content low Too acid	0.05 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Wetness depth Too acid	0.00 0.38 0.50
BhD: Buchanan-----	75	Fair Droughty Organic matter content low Too acid	0.05 0.12 0.50	Fair Wetness depth Slope	0.38 0.82	Poor Slope Rock fragments Wetness depth Too acid	0.00 0.00 0.38 0.50
BmB: Buchanan-----	80	Fair Droughty Organic matter content low Too acid	0.03 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Wetness depth Too acid	0.00 0.38 0.50
BmC: Buchanan-----	75	Fair Droughty Organic matter content low Too acid	0.03 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Slope Wetness depth Too acid	0.00 0.16 0.38 0.50
BuB: Buchanan-----	45	Fair Droughty Organic matter content low Too acid	0.05 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Wetness depth Too acid	0.00 0.38 0.50
Andover-----	40	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Poor Wetness depth	0.00	Poor Wetness depth Too acid Rock fragments	0.00 0.50 0.95
BuC: Buchanan-----	60	Fair Droughty Organic matter content low Too acid	0.05 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Slope Wetness depth Too acid	0.00 0.37 0.38 0.50
Andover-----	30	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Poor Wetness depth	0.00	Poor Wetness depth Slope Too acid Rock fragments	0.00 0.37 0.50 0.95

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
BxB: Buchanan-----	45	Fair Droughty Organic matter content low Too acid	0.03 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Wetness depth Too acid	0.00 0.38 0.50
Andover-----	30	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Poor Wetness depth	0.00	Poor Wetness depth Too acid Rock fragments	0.00 0.50 0.95
BxC: Buchanan-----	55	Fair Droughty Organic matter content low Too acid	0.03 0.12 0.50	Fair Wetness depth	0.38	Poor Rock fragments Slope Wetness depth Too acid	0.00 0.16 0.38 0.50
Andover-----	20	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Poor Wetness depth	0.00	Poor Wetness depth Slope Too acid Rock fragments	0.00 0.16 0.50 0.95
CaB: Calvin-----	75	Poor Droughty Organic matter content low Too acid Depth to bedrock Cobble content	0.00 0.12 0.50 0.58 0.78	Poor Depth to bedrock Cobble content	0.00 0.45	Poor Rock fragments Depth to bedrock Too acid	0.00 0.58 0.88
CaC: Calvin-----	75	Poor Droughty Organic matter content low Too acid Depth to bedrock Cobble content	0.00 0.12 0.50 0.58 0.78	Poor Depth to bedrock Cobble content	0.00 0.45	Poor Rock fragments Slope Depth to bedrock Too acid	0.00 0.37 0.58 0.88
CbC: Cedarcreek-----	85	Fair Organic matter content low Droughty Too acid Cobble content	0.01 0.02 0.50 0.68	Poor Cobble content Wetness depth	0.00 0.53	Poor Hard to reclaim (rock fragments) Rock fragments Wetness depth Too acid	0.00 0.00 0.53 0.59
CbD: Cedarcreek-----	85	Fair Organic matter content low Droughty Cobble content Too acid	0.01 0.02 0.13 0.50	Poor Slope Cobble content Wetness depth Wetness depth	0.00 0.00 0.53 0.53	Poor Slope Hard to reclaim (rock fragments) Rock fragments Wetness depth Too acid	0.00 0.00 0.00 0.00 0.53 0.59

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
CbE: Cedarcreek-----	80	Fair Organic matter content low Droughty Cobble content Too acid	0.01 0.02 0.13 0.50	Poor Slope Cobble content	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.00 0.59
CcA: Chenango-----	80	Fair Cobble content Droughty Organic matter content low Too acid	0.28 0.36 0.50 0.84	Fair Cobble content	0.25	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.50
CcB: Chenango-----	80	Fair Cobble content Droughty Organic matter content low Too acid	0.28 0.36 0.50 0.84	Fair Cobble content	0.25	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.50
CdB: Clymer-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
CdD: Clymer-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock Slope	0.58 0.92	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.03 0.12 0.50
CeA: Clymer-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
CeB: Clymer-----	75	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
CeC: Clymer-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Slope Too acid	0.03 0.12 0.37 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
CfB: Clymer-----	70	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
CgB: Clymer-----	40	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
Cookport-----	35	Fair Droughty Too acid Organic matter content low	0.02 0.08 0.08	Fair Wetness depth Depth to bedrock	0.06 0.87	Fair Wetness depth Too acid Rock fragments	0.06 0.50 0.95
ChB: Clymer-----	50	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
Hazleton-----	35	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Depth to bedrock	0.99	Poor Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.50
CmA: Comly-----	80	Fair Droughty Organic matter content low Too acid Water erosion	0.02 0.12 0.84 0.99	Fair Wetness depth Cobble content	0.35 0.99	Poor Rock fragments Wetness depth	0.00 0.35
CmB: Comly-----	80	Fair Droughty Organic matter content low Too acid Water erosion	0.02 0.12 0.84 0.99	Fair Wetness depth Cobble content	0.35 0.99	Poor Rock fragments Wetness depth	0.00 0.35
CmC: Comly-----	80	Fair Droughty Organic matter content low Too acid Water erosion	0.02 0.12 0.84 0.99	Fair Wetness depth Cobble content	0.35 0.99	Poor Rock fragments Wetness depth Slope	0.00 0.35 0.37
CnB: Cookport-----	80	Fair Too acid Organic matter content low Water erosion	0.12 0.12 0.99	Fair Wetness depth	0.53	Fair Wetness depth Too acid Rock fragments Hard to reclaim (rock fragments)	0.53 0.59 0.72 0.95

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
CoA: Cookport-----	80	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Fair Wetness depth Depth to bedrock	0.06 0.87	Fair Rock fragments Wetness depth Too acid	0.03 0.06 0.50
CoB: Cookport-----	80	Poor Droughty Organic matter content low Too acid	0.00 0.12 0.50	Fair Wetness depth Depth to bedrock	0.06 0.39	Fair Wetness depth Too acid Rock fragments	0.06 0.59 0.72
CpB: Cookport-----	70	Fair Too acid Organic matter content low Droughty	0.12 0.12 0.97	Fair Depth to bedrock Wetness depth	0.23 0.24	Fair Wetness depth Too acid Rock fragments Hard to reclaim (rock fragments)	0.24 0.59 0.72 0.95
CpD: Cookport-----	75	Fair Too acid Organic matter content low Droughty	0.12 0.12 0.97	Fair Depth to bedrock Wetness depth Slope	0.23 0.24 0.82	Poor Slope Wetness depth Too acid Rock fragments Hard to reclaim (rock fragments)	0.00 0.24 0.59 0.72 0.95
Cr: Craigs ville-----	75	Fair Stone content Too acid Organic matter content low Droughty	0.30 0.50 0.88 0.99	Fair Stone content	0.52	Poor Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.88
Fr: Freetown-----	85	Fair Too acid	0.50	Poor Wetness depth	0.00	Not rated	
GpB: Gilpin-----	75	Fair Droughty Organic matter content low Depth to bedrock Too acid Too clayey	0.04 0.12 0.46 0.50 0.50	Poor Depth to bedrock	0.00	Fair Too clayey Depth to bedrock Too acid Rock fragments	0.29 0.46 0.50 0.92
GpC: Gilpin-----	75	Fair Droughty Organic matter content low Depth to bedrock Too acid Too clayey	0.04 0.12 0.46 0.50 0.50	Poor Depth to bedrock	0.00	Fair Too clayey Slope Depth to bedrock Too acid Rock fragments	0.29 0.37 0.46 0.50 0.92

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
GwD: Gilpin-----	50	Fair Droughty Organic matter content low Depth to bedrock Too acid Too clayey	0.04 0.12 0.46 0.50 0.50	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Too clayey Depth to bedrock Too acid Rock fragments	0.00 0.29 0.46 0.50 0.92
Wharton-----	30	Fair Organic matter content low Too acid Droughty Water erosion	0.01 0.08 0.95 0.99	Fair Wetness depth Slope Shrink-swell	0.41 0.50 0.87	Poor Slope Rock fragments Hard to reclaim (rock fragments) Wetness depth Too acid	0.00 0.00 0.12 0.41 0.50
HeA: Hagerstown-----	75	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.12 0.87	Poor Too clayey	0.00
HeB: Hagerstown-----	75	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.12 0.87	Poor Too clayey	0.00
HeC: Hagerstown-----	80	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.12 0.87	Poor Too clayey Slope	0.00 0.37
HfB: Hagerstown-----	80	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.12 0.87	Poor Too clayey	0.00
HgC: Hagerstown-----	60	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.04 0.87	Poor Too clayey Slope	0.00 0.37
Opequon-----	30	Poor Droughty Depth to bedrock Too clayey Too acid	0.00 0.00 0.18 0.84	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Depth to bedrock Too clayey Slope	0.00 0.18 0.37

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
HhA: Hartleton-----	80	Fair Cobble content Organic matter content low Droughty Too acid	0.02 0.12 0.19 0.50	Poor Cobble content Depth to bedrock	0.00 0.39	Poor Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.88
HhB: Hartleton-----	80	Fair Cobble content Organic matter content low Droughty Too acid	0.02 0.12 0.19 0.50	Poor Cobble content Depth to bedrock	0.00 0.39	Poor Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.88
HhC: Hartleton-----	80	Fair Cobble content Organic matter content low Droughty Too acid	0.02 0.12 0.19 0.50	Poor Cobble content Depth to bedrock	0.00 0.39	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too acid	0.00 0.00 0.37 0.88
HjC: Hazleton-----	75	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Depth to bedrock	0.99	Poor Rock fragments Hard to reclaim (rock fragments) Slope Too acid	0.00 0.00 0.16 0.50
HkE: Hazleton-----	80	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Poor Slope Depth to bedrock	0.00 0.99	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.00 0.50
HlB: Clymer-----	40	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
Hazleton-----	40	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Depth to bedrock	0.99	Poor Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.50
HlC: Clymer-----	40	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Slope Too acid	0.03 0.12 0.37 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
H1C: Hazleton-----	40	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Depth to bedrock	0.99	Poor Rock fragments Hard to reclaim (rock fragments) Slope Too acid	0.00 0.00 0.37 0.50
H1D: Clymer-----	40	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Slope Depth to bedrock	0.50 0.58	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.03 0.12 0.50
Hazleton-----	40	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Slope Depth to bedrock	0.50 0.99	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.00 0.50
HmB: Hazleton-----	45	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Depth to bedrock	0.99	Poor Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.50
Clymer-----	40	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock	0.58	Fair Rock fragments Hard to reclaim (rock fragments) Too acid	0.03 0.12 0.50
HmD: Hazleton-----	50	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Fair Slope Depth to bedrock	0.92 0.99	Poor Rock fragments Slope Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.00 0.50
Clymer-----	30	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.51	Fair Depth to bedrock Slope	0.58 0.92	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.03 0.12 0.50
HoF: Hazleton-----	35	Fair Too acid Organic matter content low Droughty	0.08 0.12 0.99	Poor Slope Depth to bedrock	0.00 0.99	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.00 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
HoF: Laidig-----	35	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Poor Slope Stone content	0.00 0.98	Poor Slope Rock fragments Too acid Hard to reclaim (rock fragments)	0.00 0.00 0.50 0.50
HuB: Hustontown-----	75	Fair Organic matter content low Droughty Too acid	0.12 0.17 0.74	Fair Wetness depth	0.20	Fair Wetness depth Rock fragments	0.20 0.92
HuC: Hustontown-----	80	Fair Organic matter content low Droughty Too acid	0.12 0.17 0.74	Fair Wetness depth	0.20	Fair Wetness depth Slope Rock fragments	0.20 0.37 0.92
HuD: Hustontown-----	75	Fair Organic matter content low Droughty Too acid	0.12 0.17 0.74	Fair Wetness depth Slope	0.20 0.82	Poor Slope Wetness depth Rock fragments	0.00 0.20 0.92
KcD: Klinesville-----	80	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.24 0.54	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.00 0.98
KcE: Klinesville-----	80	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.24 0.54	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too acid	0.00 0.00 0.00 0.98
KrA: Kreamer-----	80	Fair Organic matter content low Too clayey Too acid Water erosion	0.12 0.50 0.84 0.99	Fair Wetness depth Low strength Shrink-swell	0.22 0.22 0.87	Fair Wetness depth Too clayey Rock fragments	0.22 0.29 0.92
LaB: Laidig-----	80	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Fair Stone content	0.98	Poor Rock fragments Too acid Hard to reclaim (rock fragments)	0.00 0.50 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
LaC: Laidig-----	80	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Fair Stone content	0.98	Poor Rock fragments Slope Too acid Hard to reclaim (rock fragments)	0.00 0.37 0.50 0.50
LaD: Laidig-----	80	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Fair Slope Stone content	0.50 0.98	Poor Slope Rock fragments Too acid Hard to reclaim (rock fragments)	0.00 0.00 0.50 0.50
LdB: Laidig-----	80	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Fair Stone content	0.98	Poor Rock fragments Too acid Hard to reclaim (rock fragments)	0.00 0.50 0.50
LdC: Laidig-----	75	Fair Organic matter content low Droughty Too acid Stone content	0.12 0.20 0.50 0.98	Fair Stone content	0.98	Poor Rock fragments Slope Too acid Hard to reclaim (rock fragments)	0.00 0.16 0.50 0.50
LkB: Leck Kill-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.54 0.99	Fair Depth to bedrock	0.04	Poor Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.98
LkC: Leck Kill-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.54 0.99	Fair Depth to bedrock	0.04	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too acid	0.00 0.00 0.37 0.98
LkD: Leck Kill-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.54 0.99	Fair Depth to bedrock Slope	0.04 0.50	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.00 0.00 0.98
LkE: Leck Kill-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.54 0.99	Poor Slope Depth to bedrock	0.00 0.04	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too acid	0.00 0.00 0.00 0.00 0.98

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
LmD: Leck Kill-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.54 0.99	Fair Depth to bedrock	0.04	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too acid	0.00 0.00 0.16 0.98
LnB: Leetonia-----	75	Poor Too sandy Droughty Organic matter content low Too acid Cobble content	0.00 0.00 0.12 0.50 0.99	Fair Depth to bedrock Cobble content	0.39 0.41	Poor Too sandy Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.00 0.32
LnC: Leetonia-----	80	Poor Too sandy Droughty Organic matter content low Too acid Cobble content	0.00 0.00 0.12 0.50 0.99	Fair Depth to bedrock Cobble content	0.39 0.41	Poor Too sandy Rock fragments Hard to reclaim (rock fragments) Slope Too acid	0.00 0.00 0.00 0.16 0.32
Lo: Linden-----	75	Fair Organic matter content low Too acid Water erosion	0.12 0.20 0.99	Good		Fair Rock fragments Too acid	0.50 0.76
Lr: Linden-----	80	Fair Organic matter content low Too acid Water erosion	0.12 0.20 0.99	Good		Fair Rock fragments Too acid	0.50 0.76
MeB: Meckesville-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.94	Good		Fair Rock fragments Too acid	0.28 0.50
MeC: Meckesville-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.94	Good		Fair Rock fragments Slope Too acid	0.28 0.37 0.50
MeD: Meckesville-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.94	Fair Slope	0.50	Poor Slope Rock fragments Too acid	0.00 0.28 0.50

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
MhD: Meckesville-----	80	Fair Organic matter content low Too acid Droughty	0.12 0.50 0.94	Fair Slope	0.68	Poor Slope Rock fragments Too acid	0.00 0.28 0.50
Mn: Melvin-----	40	Fair Water erosion Too acid	0.90 0.95	Poor Wetness depth Low strength	0.00 0.00	Poor Wetness depth	0.00
Newark-----	40	Fair Water erosion Too acid	0.90 0.95	Poor Low strength Wetness depth	0.00 0.04	Poor Hard to reclaim (rock fragments) Wetness depth	0.00 0.04
MoB: Morrison-----	80	Fair Organic matter content low Too clayey Too acid	0.12 0.18 0.74	Good		Fair Too clayey Rock fragments Hard to reclaim (rock fragments)	0.10 0.88 0.88
MoC: Morrison-----	80	Fair Organic matter content low Too clayey Too acid	0.12 0.18 0.74	Good		Fair Too clayey Slope Rock fragments Hard to reclaim (rock fragments)	0.10 0.37 0.88 0.88
MuA: Murrill-----	80	Fair Organic matter content low Too acid	0.12 0.54	Fair Low strength	0.78	Poor Rock fragments Too acid	0.00 0.98
MuB: Murrill-----	75	Fair Organic matter content low Too acid	0.12 0.54	Fair Low strength	0.78	Poor Rock fragments Too acid	0.00 0.98
MuC: Murrill-----	75	Fair Organic matter content low Too acid	0.12 0.54	Fair Low strength	0.78	Poor Rock fragments Slope Too acid	0.00 0.37 0.98
MuD: Murrill-----	80	Fair Organic matter content low Too acid	0.12 0.54	Fair Slope Low strength	0.50 0.78	Poor Slope Rock fragments Too acid	0.00 0.00 0.98
NoA: Nolo-----	80	Fair Droughty Organic matter content low Too acid	0.01 0.12 0.50	Poor Wetness depth Depth to bedrock	0.00 0.12	Poor Wetness depth Rock fragments Too acid	0.00 0.12 0.32

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
NsA: Nolo-----	80	Fair Droughty Organic matter content low Too acid	0.01 0.12 0.50	Poor Wetness depth Depth to bedrock	0.00 0.12	Poor Wetness depth Rock fragments Too acid	0.00 0.12 0.32
OeE: Opequon-----	80	Poor Droughty Depth to bedrock Too clayey Too acid	0.00 0.00 0.18 0.84	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.12	Poor Slope Depth to bedrock Too clayey	0.00 0.00 0.18
OhD: Opequon-----	70	Poor Droughty Depth to bedrock Too clayey Too acid	0.00 0.00 0.18 0.84	Poor Low strength Depth to bedrock Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.18
Hagerstown-----	20	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Slope Shrink-swell	0.00 0.12 0.50 0.87	Poor Too clayey Slope	0.00 0.00
OsD: Opequon-----	70	Poor Depth to bedrock Droughty Too clayey Too acid	0.00 0.00 0.18 0.84	Poor Low strength Depth to bedrock Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.18
Hagerstown-----	20	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.84	Poor Low strength Depth to bedrock Slope Shrink-swell	0.00 0.12 0.50 0.87	Poor Slope Too clayey	0.00 0.00
PaE: Pennval-----	80	Fair Organic matter content low Too acid	0.12 0.46	Poor Slope	0.00	Poor Slope Rock fragments Too acid	0.00 0.28 0.95
Pb: Philo-----	75	Fair Organic matter content low Too acid Water erosion	0.12 0.54 0.99	Fair Wetness depth	0.12	Poor Hard to reclaim (rock fragments) Wetness depth Rock fragments Too acid	0.00 0.12 0.97 0.98
Pc: Philo-----	45	Fair Organic matter content low Too acid Water erosion	0.12 0.54 0.99	Fair Wetness depth	0.12	Poor Hard to reclaim (rock fragments) Wetness depth Rock fragments Too acid	0.00 0.12 0.97 0.98

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
Pc: Linden-----	40	Fair Organic matter content low Too acid Water erosion	0.12 0.20 0.99	Good		Fair Rock fragments Too acid	0.50 0.76
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Poor Too sandy Organic matter content low Droughty Too acid	0.00 0.01 0.05 0.68	Fair Cobble content	0.64	Poor Too sandy Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Pu: Purdy-----	80	Fair Too acid Organic matter content low Too clayey Water erosion	0.12 0.12 0.50 0.90	Poor Wetness depth Low strength Shrink-swell	0.00 0.00 0.87	Poor Wetness depth Too clayey Too acid	0.00 0.29 0.59
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Poor Hard to reclaim (dense layer) Hard to reclaim (rock fragments) Rock fragments Slope Too acid	0.00 0.00 0.00 0.00 0.24
TaA: Tilsit-----	80	Fair Organic matter content low Droughty Too acid Too clayey Water erosion	0.12 0.26 0.50 0.82 0.90	Poor Low strength Wetness depth	0.00 0.11	Fair Wetness depth Too clayey Too acid	0.11 0.48 0.59
TaB: Tilsit-----	80	Fair Organic matter content low Droughty Too acid Too clayey Water erosion	0.12 0.26 0.50 0.82 0.90	Poor Low strength Wetness depth	0.00 0.11	Fair Wetness depth Too clayey Too acid	0.11 0.48 0.59

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
TaC: Tilsit-----	80	Fair Organic matter content low Droughty Too acid Too clayey Water erosion	0.12 0.26 0.50 0.82 0.90	Poor Low strength Wetness depth	0.00 0.11	Fair Wetness depth Slope Too clayey Too acid	0.11 0.37 0.48 0.59
TmA: Timberville-----	80	Fair Organic matter content low Too clayey Too acid	0.12 0.50 0.50	Poor Low strength Shrink-swell	0.00 0.99	Fair Too clayey Too acid Rock fragments	0.36 0.92 0.98
TmB: Timberville-----	80	Fair Organic matter content low Too clayey Too acid	0.12 0.50 0.50	Poor Low strength Shrink-swell	0.00 0.99	Fair Too clayey Too acid Rock fragments	0.36 0.92 0.98
UnB: Ungers-----	75	Fair Organic matter content low Too acid Too clayey Droughty	0.12 0.50 0.82 0.95	Fair Depth to bedrock	0.39	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Too acid	0.00 0.00 0.48 0.59
UnC: Ungers-----	80	Fair Organic matter content low Too acid Too clayey Droughty	0.12 0.50 0.82 0.95	Fair Depth to bedrock	0.39	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too clayey Too acid	0.00 0.00 0.37 0.48 0.59
UoB: Ungers-----	85	Fair Organic matter content low Too acid Too clayey Droughty	0.12 0.50 0.82 0.95	Fair Depth to bedrock	0.39	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Too acid	0.00 0.00 0.48 0.59
UoC: Ungers-----	80	Fair Organic matter content low Too acid Too clayey Droughty	0.12 0.50 0.82 0.95	Fair Depth to bedrock	0.39	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too clayey Too acid	0.00 0.00 0.16 0.48 0.59

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
UoE: Ungers-----	80	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.39	Hard to reclaim (rock fragments)	0.00
		Too clayey	0.82			Rock fragments	0.00
		Droughty	0.95			Too clayey	0.48
						Too acid	0.59
UpF: Ungers-----	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.39	Hard to reclaim (rock fragments)	0.00
		Too clayey	0.82			Rock fragments	0.00
		Droughty	0.95			Too clayey	0.48
						Too acid	0.59
Meckesville-----	30	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50			Rock fragments	0.28
		Droughty	0.81			Too acid	0.50
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Organic matter content low	0.12			Depth to bedrock	0.21
		Depth to bedrock	0.21			Too acid	0.50
		Too acid	0.50			Slope	0.96
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Fair		Fair		Poor	
		Droughty	0.02	Wetness depth	0.35	Rock fragments	0.00
		Organic matter content low	0.12	Cobble content	0.99	Wetness depth	0.35
		Too acid	0.84				
		Water erosion	0.99				
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Fair		Fair		Poor	
		Droughty	0.02	Wetness depth	0.35	Rock fragments	0.00
		Organic matter content low	0.12	Cobble content	0.99	Wetness depth	0.35
		Too acid	0.84			Slope	0.37
		Water erosion	0.99				
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Fair		Good		Fair	
		Organic matter content low	0.12			Rock fragments	0.50
		Too acid	0.20			Too acid	0.76
		Water erosion	0.99				

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
WaA: Watson-----	80	Fair Droughty Organic matter content low Too acid Water erosion	0.11 0.12 0.50 0.99	Fair Wetness depth Low strength Shrink-swell	0.20 0.78 0.87	Fair Wetness depth Too acid Rock fragments	0.20 0.88 0.95
WbB: Wharton-----	80	Fair Too acid Organic matter content low Droughty Water erosion	0.08 0.12 0.95 0.99	Fair Wetness depth Shrink-swell	0.41 0.87	Poor Rock fragments Hard to reclaim (rock fragments) Wetness depth Too acid	0.00 0.12 0.41 0.50
WbC: Wharton-----	80	Fair Too acid Organic matter content low Droughty Water erosion	0.08 0.12 0.95 0.99	Fair Wetness depth Shrink-swell	0.41 0.87	Poor Rock fragments Hard to reclaim (rock fragments) Slope Wetness depth Too acid	0.00 0.12 0.37 0.41 0.50
WeB: Wharton-----	80	Fair Too acid Organic matter content low Droughty Water erosion	0.08 0.12 0.95 0.99	Fair Wetness depth Shrink-swell	0.41 0.87	Poor Rock fragments Hard to reclaim (rock fragments) Wetness depth Too acid	0.00 0.12 0.41 0.50
WgB: Wharton-----	50	Fair Too acid Organic matter content low Droughty Water erosion	0.08 0.12 0.95 0.99	Fair Wetness depth Shrink-swell	0.41 0.87	Poor Rock fragments Hard to reclaim (rock fragments) Wetness depth Too acid	0.00 0.12 0.41 0.50
Cookport-----	30	Poor Droughty Too acid Organic matter content low	0.00 0.08 0.12	Fair Wetness depth Depth to bedrock	0.06 0.87	Fair Rock fragments Wetness depth Too acid	0.03 0.06 0.50
WhA: Wheeling-----	80	Fair Organic matter content low Too acid Water erosion	0.12 0.74 0.99	Good		Fair Rock fragments	0.88
WyA: Wyoming-----	85	Fair Organic matter content low Too acid Droughty	0.12 0.20 0.41	Good		Poor Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.76

Soil Survey of Clinton County, Pennsylvania

Table 15b.--Construction Materials (Part 2)--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
WyB: Wyoming-----	85	Fair Organic matter content low Too acid Droughty	0.12 0.20 0.41	Good		Poor Rock fragments Hard to reclaim (rock fragments) Too acid	0.00 0.00 0.76
ZoA: Zoar-----	80	Fair Organic matter content low Too acid Too clayey Water erosion	0.12 0.32 0.50 0.90	Poor Low strength Wetness depth Shrink-swell	0.00 0.53 0.89	Fair Too clayey Wetness depth Too acid	0.29 0.53 0.88

Soil Survey of Clinton County, Pennsylvania

Table 16.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeB: Aeric Epiaquents----	80	Very limited Seepage Depth to bedrock	1.00 0.81	Very limited Depth to saturated zone Thin layer	1.00 0.81	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10
AfD: Allegheny-----	80	Somewhat limited Seepage Slope	0.72 0.06	Not limited		Very limited Depth to water	1.00
AgB: Allenwood-----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.83	Very limited Depth to water	1.00
AgC: Allenwood-----	80	Somewhat limited Seepage Slope	0.72 0.01	Somewhat limited Piping	0.83	Very limited Depth to water	1.00
AgD: Allenwood-----	90	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Piping	0.83	Very limited Depth to water	1.00
At: Atkins-----	75	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.99	Somewhat limited Cutbanks cave	0.10
Ba: Barbour-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.38	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96
Bb: Barbour-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.38	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96
Craigsville-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Depth to water	1.00
Bc: Basher-----	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	0.99 0.59	Very limited Cutbanks cave Depth to saturated zone	1.00 0.01
BeB: Berks-----	75	Very limited Seepage Depth to bedrock	1.00 0.23	Somewhat limited Thin layer	0.95	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
BeC: Berks-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.23 0.01	Somewhat limited Thin layer	0.95	Very limited Depth to water	1.00
BeD: Berks-----	45	Very limited Seepage Depth to bedrock Slope	1.00 0.23 0.12	Somewhat limited Thin layer	0.95	Very limited Depth to water	1.00
Weikert-----	30	Very limited Seepage Depth to bedrock Slope	1.00 0.66 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
BeE: Berks-----	40	Very limited Seepage Slope Depth to bedrock	1.00 0.50 0.34	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Weikert-----	35	Very limited Seepage Depth to bedrock Slope	1.00 0.66 0.50	Very limited Thin layer	1.00	Very limited Depth to water	1.00
BgA: Brinkerton-----	70	Somewhat limited Depth to cemented pan Seepage	0.98 0.72	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.98	Very limited Depth to water	1.00
BhB: Buchanan-----	75	Somewhat limited Depth to cemented pan Seepage	0.91 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
BhD: Buchanan-----	75	Somewhat limited Depth to cemented pan Seepage Slope	0.91 0.72 0.08	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
BmB: Buchanan-----	80	Somewhat limited Depth to cemented pan Seepage	0.91 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
BmC: Buchanan-----	75	Somewhat limited Depth to cemented pan Seepage Slope	0.91 0.72 0.01	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
BuB:							
Buchanan-----	45	Somewhat limited Depth to cemented pan Seepage	0.91 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
Andover-----	40	Somewhat limited Depth to cemented pan Seepage	0.99 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.99	Very limited Depth to water	1.00
BuC:							
Buchanan-----	60	Somewhat limited Depth to cemented pan Seepage Slope	0.91 0.72 0.01	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
Andover-----	30	Somewhat limited Depth to cemented pan Seepage Slope	0.99 0.72 0.01	Very limited Depth to saturated zone Thin layer	1.00 0.99	Very limited Depth to water	1.00
BxB:							
Buchanan-----	45	Somewhat limited Depth to cemented pan Seepage	0.91 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
Andover-----	30	Somewhat limited Depth to cemented pan Seepage	0.99 0.72	Very limited Depth to saturated zone Thin layer	1.00 0.99	Very limited Depth to water	1.00
BxC:							
Buchanan-----	55	Somewhat limited Depth to cemented pan Seepage Slope	0.91 0.72 0.01	Very limited Depth to saturated zone Thin layer	1.00 0.91	Very limited Cutbanks cave Slow refill	1.00 1.00
Andover-----	20	Somewhat limited Depth to cemented pan Seepage Slope	0.99 0.72 0.01	Very limited Depth to saturated zone Thin layer	1.00 0.99	Very limited Depth to water	1.00
CaB:							
Calvin-----	75	Very limited Seepage Depth to bedrock	1.00 0.11	Somewhat limited Thin layer Large stones content	0.85 0.55	Very limited Depth to water	1.00
CaC:							
Calvin-----	75	Very limited Seepage Depth to bedrock Slope	1.00 0.11 0.01	Somewhat limited Thin layer Large stones content	0.85 0.55	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
CbC: Cedarcreek-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage Large stones content	0.99 0.50 0.40	Somewhat limited Large stones content Cutbanks cave Depth to saturated zone	0.40 0.10 0.01
CbD: Cedarcreek-----	85	Very limited Seepage Slope	1.00 0.64	Very limited Large stones content Depth to saturated zone	1.00 0.99	Very limited Large stones content Cutbanks cave Depth to saturated zone	1.00 0.10 0.01
CbE: Cedarcreek-----	80	Very limited Seepage Slope	1.00 0.97	Very limited Large stones content Seepage	1.00 0.50	Very limited Depth to water	1.00
CcA: Chenango-----	80	Very limited Seepage	1.00	Somewhat limited Seepage Large stones content	0.50 0.03	Very limited Depth to water	1.00
CcB: Chenango-----	80	Very limited Seepage	1.00	Somewhat limited Seepage Large stones content	0.50 0.03	Very limited Depth to water	1.00
CdB: Clymer-----	80	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
CdD: Clymer-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.10 0.06	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
CeA: Clymer-----	80	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
CeB: Clymer-----	75	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
CeC: Clymer-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.10 0.01	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
CfB: Clymer-----	70	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
CgB: Clymer-----	40	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
Cookport-----	35	Very limited Seepage Depth to cemented pan Depth to bedrock	1.00 0.98 0.03	Very limited Depth to saturated zone Piping Thin layer	1.00 0.99 0.98	Very limited Depth to water	1.00
ChB: Clymer-----	50	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
Hazleton-----	35	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
CmA: Comly-----	80	Somewhat limited Depth to cemented pan Seepage	0.92 0.72	Very limited Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.92 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
CmB: Comly-----	80	Somewhat limited Depth to cemented pan Seepage	0.92 0.72	Very limited Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.92 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
CmC: Comly-----	80	Somewhat limited Depth to cemented pan Seepage Slope	0.92 0.72 0.01	Very limited Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.92 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
CnB: Cookport-----	80	Somewhat limited Seepage	0.72	Very limited Piping Depth to saturated zone	1.00 0.99	Very limited Depth to water	1.00
CoA: Cookport-----	80	Very limited Seepage Depth to cemented pan Depth to bedrock	1.00 0.99 0.03	Very limited Depth to saturated zone Thin layer	1.00 0.99	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
CoB: Cookport-----	80	Somewhat limited Depth to cemented pan Seepage Depth to bedrock	0.99 0.72 0.16	Very limited Depth to saturated zone Thin layer Piping Seepage	1.00 0.99 0.98 0.04	Very limited Depth to water	1.00
CpB: Cookport-----	70	Somewhat limited Seepage Depth to bedrock	0.72 0.22	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.04	Very limited Depth to water	1.00
CpD: Cookport-----	75	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.22 0.08	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.04	Very limited Depth to water	1.00
Cr: Craigsville-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Depth to water	1.00
Fr: Freetown-----	85	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
GpB: Gilpin-----	75	Somewhat limited Seepage Depth to bedrock	0.72 0.13	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00
GpC: Gilpin-----	75	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.13 0.01	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00
GwD: Gilpin-----	50	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.13 0.12	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00
Wharton-----	30	Somewhat limited Seepage Slope	0.47 0.12	Very limited Depth to saturated zone Piping	1.00 1.00	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.53 0.10 0.02
HeA: Hagerstown-----	75	Very limited Seepage Depth to bedrock	1.00 0.29	Somewhat limited Thin layer Piping	0.29 0.06	Very limited Depth to water	1.00
HeB: Hagerstown-----	75	Very limited Seepage Depth to bedrock	1.00 0.29	Somewhat limited Thin layer Piping	0.29 0.06	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
HeC: Hagerstown-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.29 0.01	Somewhat limited Thin layer Piping	0.29 0.06	Very limited Depth to water	1.00
HfB: Hagerstown-----	80	Very limited Seepage Depth to bedrock	1.00 0.29	Somewhat limited Thin layer Piping	0.29 0.06	Very limited Depth to water	1.00
HgC: Hagerstown-----	60	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.37 0.01	Somewhat limited Thin layer Piping	0.37 0.03	Very limited Depth to water	1.00
Opequon-----	30	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.01	Very limited Thin layer Hard to pack	1.00 0.07	Very limited Depth to water	1.00
HhA: Hartleton-----	80	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Large stones content Thin layer	0.82 0.16	Very limited Depth to water	1.00
HhB: Hartleton-----	80	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Large stones content Thin layer	0.82 0.16	Very limited Depth to water	1.00
HhC: Hartleton-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.01 0.01	Somewhat limited Large stones content Thin layer	0.82 0.16	Very limited Depth to water	1.00
HjC: Hazleton-----	75	Very limited Seepage Slope Depth to bedrock	1.00 0.01 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
HkE: Hazleton-----	80	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
HLB: Clymer-----	40	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
Hazleton-----	40	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
H1C:							
Clymer-----	40	Very limited Seepage Depth to bedrock Slope	1.00 0.10 0.01	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
Hazleton-----	40	Very limited Seepage Slope Depth to bedrock	1.00 0.01 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
H1D:							
Clymer-----	40	Very limited Seepage Slope Depth to bedrock	1.00 0.12 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
Hazleton-----	40	Very limited Seepage Slope Depth to bedrock	1.00 0.12 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
HmB:							
Hazleton-----	45	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
Clymer-----	40	Very limited Seepage Depth to bedrock	1.00 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
HmD:							
Hazleton-----	50	Very limited Seepage Slope Depth to bedrock	1.00 0.06 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
Clymer-----	30	Very limited Seepage Depth to bedrock Slope	1.00 0.10 0.06	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
HoF:							
Hazleton-----	35	Very limited Seepage Slope Depth to bedrock	1.00 0.82 0.01	Somewhat limited Thin layer Seepage	0.01 0.01	Very limited Depth to water	1.00
Laidig-----	35	Very limited Seepage Slope Depth to cemented pan	1.00 0.82 0.46	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29
HuB:							
Hustontown-----	75	Somewhat limited Depth to cemented pan Seepage	0.96 0.72	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.96	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
HuC: Hustontown-----	80	Somewhat limited Depth to cemented pan Seepage Slope	0.96 0.72 0.01	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.96	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
HuD: Hustontown-----	75	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.96	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
KcD: Klinesville-----	80	Somewhat limited Depth to bedrock Seepage Slope	0.58 0.54 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
KcE: Klinesville-----	80	Very limited Slope Depth to bedrock Seepage	1.00 0.58 0.54	Very limited Thin layer	1.00	Very limited Depth to water	1.00
KrA: Kreamer-----	80	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone Piping	1.00 0.88	Somewhat limited Slow refill Cutbanks cave	0.98 0.10
LaB: Laidig-----	80	Very limited Seepage Depth to cemented pan	1.00 0.46	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29
LaC: Laidig-----	80	Very limited Seepage Depth to cemented pan Slope	1.00 0.46 0.01	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29
LaD: Laidig-----	80	Very limited Seepage Depth to cemented pan Slope	1.00 0.46 0.12	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29
LdB: Laidig-----	80	Very limited Seepage Depth to cemented pan	1.00 0.46	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
LdC: Laidig-----	75	Very limited Seepage Depth to cemented pan Slope	1.00 0.46 0.01	Somewhat limited Thin layer Depth to saturated zone	0.46 0.37	Very limited Cutbanks cave Slow refill Depth to saturated zone	1.00 0.98 0.29
LkB: Leck Kill-----	80	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00
LkC: Leck Kill-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.01 0.01	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00
LkD: Leck Kill-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.12 0.01	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00
LkE: Leck Kill-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.50 0.01	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00
LmD: Leck Kill-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.01 0.01	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00
LnB: Leetonia-----	75	Very limited Seepage Depth to bedrock	1.00 0.16	Somewhat limited Seepage Thin layer Large stones content	0.69 0.16 0.03	Very limited Depth to water	1.00
LnC: Leetonia-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.16 0.01	Somewhat limited Seepage Thin layer Large stones content	0.69 0.16 0.03	Very limited Depth to water	1.00
Lo: Linden-----	75	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96
Lr: Linden-----	80	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
MeB: Meckesville-----	80	Somewhat limited Seepage Depth to cemented pan	0.72 0.52	Very limited Piping Thin layer Depth to saturated zone	1.00 0.52 0.46	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.96 0.24 0.10
MeC: Meckesville-----	80	Somewhat limited Seepage Depth to cemented pan Slope	0.72 0.52 0.01	Very limited Piping Thin layer Depth to saturated zone	1.00 0.52 0.46	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.96 0.24 0.10
MeD: Meckesville-----	80	Somewhat limited Seepage Depth to cemented pan Slope	0.72 0.52 0.12	Very limited Piping Thin layer Depth to saturated zone	1.00 0.52 0.46	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.96 0.24 0.10
MhD: Meckesville-----	80	Somewhat limited Seepage Depth to cemented pan Slope	0.72 0.52 0.10	Very limited Piping Thin layer Depth to saturated zone	1.00 0.52 0.46	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.96 0.24 0.10
Mn: Melvin-----	40	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.96	Very limited Cutbanks cave Slow refill	1.00 0.28
Newark-----	40	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.99	Very limited Cutbanks cave Slow refill	1.00 0.28
MoB: Morrison-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
MoC: Morrison-----	80	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
MuA: Murrill-----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
MuB: Murrill-----	75	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
MuC: Murrill-----	75	Somewhat limited Seepage Slope	0.72 0.01	Somewhat limited Piping	0.04	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
MuD: Murrill-----	80	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
NoA: Nolo-----	80	Somewhat limited Depth to cemented pan Seepage Depth to bedrock	0.98 0.54 0.01	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.98	Very limited Depth to water	1.00
NsA: Nolo-----	80	Somewhat limited Depth to cemented pan Seepage Depth to bedrock	0.98 0.54 0.01	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.98	Very limited Depth to water	1.00
OeE: Opequon-----	80	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.94	Very limited Thin layer Hard to pack	1.00 0.07	Very limited Depth to water	1.00
OhD: Opequon-----	70	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.12	Very limited Thin layer Hard to pack	1.00 0.07	Very limited Depth to water	1.00
Hagerstown-----	20	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.29 0.12	Somewhat limited Thin layer	0.29	Very limited Depth to water	1.00
OsD: Opequon-----	70	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.12	Very limited Thin layer Hard to pack	1.00 0.07	Very limited Depth to water	1.00
Hagerstown-----	20	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.29 0.12	Somewhat limited Thin layer	0.29	Very limited Depth to water	1.00
PaE: Pennval-----	80	Somewhat limited Slope Seepage	0.28 0.02	Somewhat limited Seepage	0.94	Very limited Depth to water	1.00
Pb: Philo-----	75	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 1.00	Very limited Cutbanks cave	1.00
Pc: Philo-----	45	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 1.00	Very limited Cutbanks cave	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
Pc: Linden-----	40	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96
Ps: Pits-----	80	Not rated		Not rated		Not rated	
Pt: Potomac-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.38	Very limited Depth to water	1.00
Pu: Purdy-----	80	Not limited		Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
Qu: Quarry-----	100	Not rated		Not rated		Not rated	
RaF: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated		Not rated	
Rb: Rubble land-----	75	Not rated		Not rated		Not rated	
TaA: Tilsit-----	80	Somewhat limited Depth to cemented pan	0.98	Very limited Depth to saturated zone Thin layer Piping	1.00 0.98 0.92	Very limited Depth to water	1.00
TaB: Tilsit-----	80	Somewhat limited Depth to cemented pan	0.98	Very limited Depth to saturated zone Thin layer Piping	1.00 0.98 0.92	Very limited Depth to water	1.00
TaC: Tilsit-----	80	Somewhat limited Depth to cemented pan Slope	0.98 0.01	Very limited Depth to saturated zone Thin layer Piping	1.00 0.98 0.92	Very limited Depth to water	1.00
TmA: Timberville-----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.29	Very limited Depth to water	1.00
TmB: Timberville-----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.29	Very limited Depth to water	1.00
UnB: Ungers-----	75	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
UnC: Ungers-----	80	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.01 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00
UoB: Ungers-----	85	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00
UoC: Ungers-----	80	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.01 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00
UoE: Ungers-----	80	Somewhat limited Slope Seepage Depth to bedrock	0.82 0.72 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00
UpF: Ungers-----	50	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.72 0.01	Somewhat limited Thin layer	0.16	Very limited Depth to water	1.00
Meckesville-----	30	Somewhat limited Seepage Slope Depth to cemented pan	0.72 0.72 0.70	Very limited Piping Thin layer Depth to saturated zone	1.00 0.70 0.24	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.96 0.38 0.10 0.10
UrC: Urban land-----	70	Not rated		Not rated		Not rated	
Berks-----	20	Very limited Seepage Depth to bedrock	1.00 0.23	Somewhat limited Thin layer	0.95	Very limited Depth to water	1.00
UsB: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to cemented pan Seepage	0.92 0.72	Very limited Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.92 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
UsC: Urban land-----	70	Not rated		Not rated		Not rated	
Comly-----	20	Somewhat limited Depth to cemented pan Seepage Slope	0.92 0.72 0.01	Very limited Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.92 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Soil Survey of Clinton County, Pennsylvania

Table 16.--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
Ut: Urban land-----	70	Not rated		Not rated		Not rated	
Linden-----	20	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Cutbanks cave Depth to saturated zone	1.00 0.96
WaA: Watson-----	80	Somewhat limited Depth to cemented pan Seepage	0.96 0.72	Very limited Depth to saturated zone Piping Thin layer	1.00 1.00 0.96	Very limited Depth to water	1.00
WbB: Wharton-----	80	Somewhat limited Seepage	0.47	Very limited Depth to saturated zone Piping	1.00 0.99	Very limited Depth to water	1.00
WbC: Wharton-----	80	Somewhat limited Seepage Slope	0.47 0.01	Very limited Depth to saturated zone Piping	1.00 0.99	Very limited Depth to water	1.00
WeB: Wharton-----	80	Somewhat limited Seepage	0.47	Very limited Depth to saturated zone Piping	1.00 0.99	Very limited Depth to water	1.00
WgB: Wharton-----	50	Somewhat limited Seepage	0.47	Very limited Depth to saturated zone Piping	1.00 0.99	Very limited Depth to water	1.00
Cookport-----	30	Very limited Seepage Depth to cemented pan Depth to bedrock	1.00 0.98 0.03	Very limited Depth to saturated zone Thin layer	1.00 0.98	Very limited Depth to water	1.00
WhA: Wheeling-----	80	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Depth to water	1.00
WyA: Wyoming-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
WyB: Wyoming-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
ZoA: Zoar-----	80	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone Piping	0.99 0.01	Very limited Depth to water	1.00

Table 17.--Engineering Index Properties

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

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AeB: Aeric Epiaquents	0-32	Channery clay loam	CL, GC, GM, SC-SM	A-1, A-2, A-4	0-5	0-20	40-85	30-70	20-65	15-60	15-25	NP-10
	32-65	Very channery silt loam, channery clay loam, channery silty clay loam	GC, GM, GW-GM, SC-SM	A-1, A-2	0-10	0-45	25-80	20-60	10-30	5-30	15-40	NP-15
Afd: Allegheny-----	0-6	Silt loam	CL, ML, SC, SM	A-2, A-4	0-1	0-10	80-95	70-86	50-80	25-60	0-30	NP-10
	6-35	Loam, gravelly silt loam	CL, ML, SC, SM	A-2, A-4, A-6	0-3	0-15	70-95	60-90	50-90	20-85	16-35	2-15
	35-65	Fine sandy loam, gravelly loam	CL, GM, ML, SM	A-1, A-2, A-4, A-6	0-5	0-15	40-95	30-95	25-95	20-75	10-35	NP-15
AgB: Allenwood-----	0-11	Gravelly silt loam	SC, CL, CL-ML, GC	A-4, A-6	0-5	0-10	60-85	60-85	50-85	40-80	20-35	5-20
	11-44	Gravelly clay, gravelly clay loam, gravelly loam, gravelly silty clay loam	CL, GC, GM, MH	A-4, A-6, A-7	0-5	0-25	60-95	45-90	45-90	35-75	25-57	5-23
	44-65	Gravelly clay loam, loam, silty clay loam, clay	CL, GM, MH, SM	A-1, A-2, A-4, A-7	0-10	0-50	25-100	25-80	20-80	15-75	5-55	NP-23
AgC: Allenwood-----	0-11	Gravelly silt loam	GC, SC, CL, CL-ML	A-4, A-6	0-5	0-10	60-85	60-85	50-85	40-80	20-35	5-20
	11-44	Gravelly clay, gravelly clay loam, gravelly loam, gravelly silty clay loam	MH, GM, GC, CL	A-4, A-6, A-7	0-5	0-25	60-95	45-90	45-90	35-75	25-57	5-23
	44-65	Gravelly clay loam, loam, silty clay loam, clay	MH, GM, CL, SM	A-1, A-2, A-4, A-7	0-10	0-50	25-100	25-80	20-80	15-75	5-55	NP-23

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
AgD: Allenwood-----	0-11	Gravelly silt loam	SC, CL, GC, CL-ML	A-4, A-6	0-5	0-10	60-85	60-85	50-85	40-80	20-35	5-20
	11-44	Gravelly clay, gravelly clay loam, gravelly loam, gravelly silty clay loam	CL, GC, GM, MH	A-4, A-6, A-7	0-5	0-25	60-95	45-90	45-90	35-75	25-57	5-23
	44-65	Gravelly clay loam, loam, silty clay loam, clay	CL, GM, MH, SM	A-1, A-2, A-4, A-7	0-10	0-50	25-100	25-80	20-80	15-75	5-55	NP-23
At: Atkins-----	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	85-100	75-100	60-95	20-40	3-20
	16-45	Sandy clay loam, loam, clay loam, silty clay loam, silt loam, sandy loam	CL, ML, SC, SM	A-4, A-6	0	0-5	90-100	85-100	65-100	45-85	20-40	3-20
	45-70	Loam, clay loam, sandy clay loam, silty clay loam, silt loam, sandy loam	SM, CL, GM, ML	A-2, A-4, A-6	0-2	0-15	60-100	60-100	50-95	30-85	20-40	1-15
Ba: Barbour-----	0-6	Fine sandy loam	SM, ML, CL-ML, SC-SM	A-2, A-4	0	0	80-100	75-100	50-95	30-90	15-25	2-7
	6-20	Fine sandy loam, silt loam, loam	CL-ML, ML, SC-SM, SM	A-1, A-2, A-4	0	0	60-100	55-95	30-95	15-85	15-25	2-7
	20-65	Very gravelly sand, very gravelly loamy sand, gravelly loamy fine sand	SP, GM, GP, SM	A-3, A-4, A-1, A-2	0-1	0-10	35-95	30-95	20-80	2-40	0-14	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Bb: Barbour-----	0-6	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-100	75-100	50-95	30-90	15-25	2-7
	6-20	Fine sandy loam, silt loam, loam	SC-SM, SM, CL-ML, ML	A-1, A-2, A-4	0	0	60-100	55-95	30-95	15-85	15-25	2-7
	20-65	Very gravelly sand, very gravelly loamy sand, gravelly loamy fine sand	SP, SM, GP, GM	A-3, A-4, A-1, A-2	0-1	0-10	35-95	30-95	20-80	2-40	0-14	NP
Craigsville----	0-5	Gravelly loam	CL-ML, SC, ML, SM	A-2, A-4	0-5	0-25	65-90	60-85	40-75	25-60	0-25	NP-10
	5-32	Very gravelly loam, very gravelly sandy loam	SM, SC, GM, GC	A-1, A-2, A-4	0-10	10-60	50-80	30-65	25-60	15-40	0-25	NP-10
	32-65	Extremely gravelly sandy loam, loamy sand	GP-GM, GM, GC-GM, GC	A-1, A-2	5-20	5-50	30-55	30-50	20-45	10-25	0-25	NP-8
Bc: Basher-----	0-10	Silt loam	SC-SM, SM, ML, CL-ML	A-1, A-2, A-4	0	0-5	80-100	75-100	45-100	20-90	15-25	2-7
	10-33	Loam, silt loam, gravelly sandy loam	SM, SC-SM, ML, CL-ML	A-1, A-2, A-4	0	0-5	75-100	70-100	40-100	20-90	15-25	2-7
	33-50	Fine sandy loam, loam, sandy loam	SM, ML, CL-ML, SC-SM	A-1, A-2, A-4	0-5	0-15	75-100	70-100	40-100	20-90	15-25	2-7
	50-65	Loam, coarse sand, gravelly loamy sand, sandy loam	SW, SM, ML, GP	A-1, A-2, A-3, A-4	0-5	0-20	30-100	25-100	10-85	1-55	0-14	NP
BeB: Berks-----	0-6	Channery silt loam	SC, ML, GM, GC	A-2, A-4	0	0-30	50-80	45-70	40-60	30-55	25-36	5-10
	6-26	Very channery silt loam, very channery loam, silty clay loam	SM, GM	A-1, A-2	0	0-40	35-65	25-55	20-40	15-35	24-38	2-10
	26-36	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
BeC: Berks-----	0-6	Channery silt loam	SC, ML, GM, GC	A-2, A-4	0	0-30	50-80	45-70	40-60	30-55	25-36	5-10
	6-26	Very channery silt loam, very channery loam, silty clay loam	SM, GM	A-1, A-2	0	0-40	35-65	25-55	20-40	15-35	24-38	2-10
	26-36	Bedrock			---	---	---	---	---	---	---	---
BeD: Berks-----	0-6	Channery silt loam	GC, GM, SC, ML	A-2, A-4	0	0-30	50-80	45-70	40-60	30-55	25-36	5-10
	6-26	Very channery silt loam, very channery loam, silty clay loam	GM, SM	A-1, A-2	0	0-40	35-65	25-55	20-40	15-35	24-38	2-10
	26-36	Bedrock			---	---	---	---	---	---	---	---
Weikert-----	0-6	Very channery silt loam	SM, ML, GM	A-1, A-2, A-4	0	10-30	35-70	35-70	25-65	20-55	30-40	4-10
	6-15	Very channery silt loam, loam	GP-GM, GM	A-1, A-2	0-1	9-40	15-60	10-55	5-45	5-35	28-36	3-9
	15-25	Bedrock			---	---	---	---	---	---	---	---
BeE: Berks-----	0-5	Channery silt loam	GC, SC, GM, ML	A-2, A-4	0	0-30	50-80	45-70	40-60	30-55	25-36	5-10
	5-23	Very channery silt loam, very channery loam, silty clay loam	SM, GM	A-1, A-2	0	0-40	35-65	25-55	20-40	15-35	24-38	2-10
	23-36	Bedrock			---	---	---	---	---	---	---	---
Weikert-----	0-4	Very channery silt loam	ML, GM, SM	A-1, A-2, A-4	0	10-30	35-70	35-70	25-65	20-55	30-40	4-10
	4-15	Very channery silt loam, loam	GM, GP-GM	A-1, A-2	0-1	9-40	15-60	10-55	5-45	5-35	28-36	3-9
	15-25	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
BgA: Brinkerton-----	0-4	Silt loam	ML	A-4, A-6, A-7-6	0	0-10	90-100	85-100	85-100	75-100	30-45	5-15
	4-30	Silty clay loam, loam, silt loam	ML	A-4, A-6, A-7	0	0-10	90-100	85-100	85-100	65-100	30-45	5-15
	30-65	Silty clay loam, loam, silt loam	ML, SM, SC, CL	A-1, A-2, A-4, A-6	0	0-50	70-95	25-95	25-85	20-75	30-40	5-15
BhB: Buchanan-----	0-7	Silt loam, gravelly loam	ML, GM, CL-ML, CL	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-21	Gravelly loam, silt loam, clay loam	GM, CL, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	GM, ML, SM, CL	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
BhD: Buchanan-----	0-7	Silt loam, gravelly loam	ML, GM, CL-ML, CL	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-21	Gravelly loam, silt loam, clay loam	ML, GM, CL, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
BmB: Buchanan-----	0-3	Silt loam, gravelly loam	GM, ML, CL, CL-ML	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	3-21	Gravelly loam, silt loam, clay loam	CL, ML, GM, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
BmC: Buchanan-----	0-3	Silt loam, gravelly loam	ML, CL-ML, GM, CL	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	3-21	Gravelly loam, silt loam, clay loam	SM, GM, CL, ML	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	SM, ML, CL, GM	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
BuB: Buchanan-----	0-7	Silt loam, gravelly loam	CL, CL-ML, GM, ML	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-21	Gravelly loam, silt loam, clay loam	CL, SM, ML, GM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	GM, SM, ML, CL	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
Andover-----	0-10	Gravelly loam	ML, GM, CL-ML, CL	A-6, A-4, A-2	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	10-22	Clay loam, silty clay loam, silt loam, loam	GM, ML, CL, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	22-55	Silty clay loam, gravelly loam, silt loam, clay loam	SM, ML, GM, CL	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	55-65	Gravelly loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0-1	5-30	70-95	55-90	50-75	25-60	20-35	2-9
BuC: Buchanan-----	0-7	Silt loam, gravelly loam	GM, CL-ML, CL, ML	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-21	Gravelly loam, silt loam, clay loam	CL, GM, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	SM, ML, GM, CL	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
Andover-----	0-10	Gravelly loam	ML, GM, CL-ML, CL	A-6, A-4, A-2	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	10-22	Clay loam, silty clay loam, silt loam, loam	SM, ML, GM, CL	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	22-55	Silty clay loam, gravelly loam, silt loam, clay loam	SM, CL, ML, GM	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	55-65	Gravelly loam	SC-SM, ML, CL-ML, SM	A-2, A-4	0-1	5-30	70-95	55-90	50-75	25-60	20-35	2-9

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
ExB: Buchanan-----	0-3	Silt loam, gravelly loam	CL, CL-ML, GM, ML	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	3-21	Gravelly loam, silt loam, clay loam	GM, CL, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
Andover-----	0-8	Gravelly loam	CL, CL-ML, GM, ML	A-6, A-4, A-2	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	8-22	Clay loam, silty clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	22-55	Silty clay loam, gravelly loam, silt loam, clay loam	ML, GM, CL, SM	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	55-65	Gravelly loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0-1	5-30	70-95	55-90	50-75	25-60	20-35	2-9
ExC: Buchanan-----	0-3	Silt loam, gravelly loam	CL, CL-ML, GM, ML	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	3-21	Gravelly loam, silt loam, clay loam	CL, GM, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	21-65	Cobbly clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-25	50-100	30-80	30-75	20-60	20-35	2-15
Andover-----	0-8	Gravelly loam	CL, CL-ML, GM, ML	A-6, A-4, A-2	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	8-22	Clay loam, silty clay loam, silt loam, loam	CL, GM, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	22-55	Silty clay loam, gravelly loam, silt loam, clay loam	CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	55-65	Gravelly loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0-1	5-30	70-95	55-90	50-75	25-60	20-35	2-9

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CaB: Calvin-----	0-1	Channery silt loam	ML, CL-ML	A-4	0	0-15	70-95	70-90	65-90	55-75	15-30	2-10
	1-3	Very channery silt loam, loam	SM, ML, GM	A-2, A-4, A-6	0-10	5-40	70-95	55-90	40-90	30-75	22-38	2-11
	3-30	Very channery silt loam, channery loam, channery silt loam, very channery loam			0-10	5-40	35-75	15-45	15-45	15-40	23-39	3-13
	30-40	Bedrock			---	---	---	---	---	---	---	---
CaC: Calvin-----	0-1	Channery silt loam	ML, CL-ML	A-4	0	0-15	70-95	70-90	65-90	55-75	15-30	2-10
	1-3	Very channery silt loam, loam	SM, GM, ML	A-2, A-4, A-6	0-10	5-40	70-95	55-90	40-90	30-75	22-38	2-11
	3-30	Channery loam, very channery silt loam, very channery loam, channery silt loam			0-10	5-45	35-75	15-45	15-45	15-40	23-39	3-13
	30-40	Bedrock			---	---	---	---	---	---	---	---
CbC: CedarCreek-----	0-24	Extremely channery loam	GC, CL, GM, SC-SM	A-1, A-2, A-4	0-5	10-60	15-70	15-60	15-60	15-60	15-25	NP-10
	24-70	Silt loam, extremely channery silty clay loam, very channery loam	GM, GC, GW-GM, SC-SM	A-1, A-2	0-20	0-70	25-80	20-50	10-30	5-30	15-40	NP-15
CbD: CedarCreek-----	0-24	Extremely channery loam	SC-SM, CL, GC, GM	A-1, A-2, A-4	0-5	0-75	25-80	20-50	10-30	5-30	15-25	NP-10
	24-70	Silt loam, extremely channery silty clay loam, very channery loam	GM, GC, SC-SM, GW-GM	A-1, A-2	0-20	0-70	25-80	20-50	10-30	5-30	15-40	NP-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CbE: Cedarcreek-----	0-24	Extremely channery loam	SC-SM, GM, GC, CL	A-1, A-2, A-4	0-5	0-75	15-80	15-70	15-65	15-60	15-25	NP-10
	24-70	Silt loam, extremely channery silty clay loam, very channery loam	SC-SM, GM, GC, GW-GM	A-1, A-2	0-20	0-70	25-80	20-50	10-30	5-30	15-40	NP-15
CcA: Chenango-----	0-8	Gravelly loam	SM, ML, GM	A-1, A-2, A-4	0	5-15	55-85	55-80	35-80	15-70	0-35	NP-10
	8-27	Sandy loam, fine sandy loam, cobbly loam, cobbly silt loam	GM, ML, SM	A-1, A-2, A-4	0	5-20	35-85	30-80	25-75	15-65	0-40	NP-10
	27-65	Sandy loam, loamy fine sand, coarse sand, extremely cobbly loamy sand	GW, GM, SM, GP	A-1	0	5-75	25-65	20-60	10-50	1-20	0-14	NP
CcB: Chenango-----	0-8	Gravelly loam	SM, GM, ML	A-1, A-2, A-4	0	5-15	55-85	55-80	35-80	15-70	0-35	NP-10
	8-27	Fine sandy loam, sandy loam, cobbly loam, cobbly silt loam	ML, GM, SM	A-1, A-2, A-4	0	5-20	35-85	30-80	25-75	15-65	0-40	NP-10
	27-65	Sandy loam, coarse sand, loamy fine sand, extremely cobbly loamy sand	SM, GM, GP, GW	A-1	0	5-75	25-65	20-60	10-50	1-20	0-14	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CdB: Clymer-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
CdD: Clymer-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GC, GM, ML, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	SM, GP-GM, GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CeA: Clymer-----	0-2	Sandy loam, channery loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
CeB: Clymer-----	0-2	Channery loam, sandy loam, loam	ML, SM	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CeC: Clymer-----	0-2	Sandy loam, channery loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	SM, GP-GM, GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
CfB: Clymer-----	0-2	Sandy loam, channery loam, loam	ML, SM	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	ML, GM, GC, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CgB: Clymer-----	0-2	Sandy loam, channery loam, loam	ML, SM	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	ML, GM, GC, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, SM, GM, GP-GM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
Cookport-----	0-8	Channery loam	CL, ML, SC, SM	A-2, A-4, A-6	0-5	2-40	75-95	60-70	50-60	30-55	20-40	1-15
	8-22	Clay loam, loam	SM, SC, ML, CL	A-4, A-6	0-5	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	22-46	Clay loam, loam	SC, ML, SM, CL	A-4, A-6	0-2	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	46-54	Channery loam	CL, GC-GM, SC-SM, ML	A-2, A-4, A-6	0-2	0-15	60-100	50-95	40-95	30-75	20-40	1-15
	54-64	Bedrock			---	---	---	---	---	---	---	---
ChB: Clymer-----	0-2	Channery loam, sandy loam, loam	ML, SM	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GC, SM, ML, GM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GP-GM, GC, GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
ChB: Hazleton-----	0-3	Channery loam, channery sandy loam	ML, GM, SC-SM, SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	ML, GM, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	GC, GM, SC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
CmA: Comly-----	0-9	Silt loam	ML	A-4	0	0	90-100	75-100	70-95	55-95	0-14	---
	9-23	Channery silt loam, channery silty clay loam	CL, CL-ML, GC-GM, SC-SM	A-1, A-2, A-4	0	0-5	50-85	30-80	25-80	20-70	20-30	4-10
	23-48	Very flaggy silt loam, very flaggy loam	CL	A-4, A-6	0	0-40	50-100	40-100	40-95	40-90	25-40	7-15
	48-65	Extremely flaggy silt loam, extremely flaggy loam			0-15	40-75	35-85	15-80	15-80	15-70	20-30	4-10
	65-75	Bedrock			---	---	---	---	---	---	---	---
CmB: Comly-----	0-9	Silt loam	ML	A-4	0	0	90-100	75-100	70-95	55-95	0-14	---
	9-23	Channery silt loam, channery silty clay loam	CL, CL-ML, SC-SM, GC-GM	A-1, A-2, A-4	0	0-5	50-85	30-80	25-80	20-70	20-30	4-10
	23-48	Very flaggy silt loam, very flaggy loam	CL	A-4, A-6	0	0-40	50-100	40-100	40-95	40-90	25-40	7-15
	48-65	Extremely flaggy silt loam, extremely flaggy loam			0-15	40-75	35-85	15-80	15-80	15-70	20-30	4-10
	65-75	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CmC: Comly-----	0-9	Silt loam	ML	A-4	0	0	90-100	75-100	70-95	55-95	0-14	---
	9-23	Channery silt loam, channery silty clay loam	CL-ML, GC-GM, SC-SM, CL	A-1, A-2, A-4	0	0-5	50-85	30-80	25-80	20-70	20-30	4-10
	23-48	Very flaggy silt loam, very flaggy loam	CL	A-4, A-6	0	0-40	50-100	40-100	40-95	40-90	25-40	7-15
	48-65	Extremely flaggy silt loam, extremely flaggy loam			0-15	40-75	35-85	15-80	15-80	15-70	20-30	4-10
	65-75	Weathered bedrock			---	---	---	---	---	---	---	---
CnB: Cookport-----	0-10	Silt loam	SM, SC, CL, ML	A-4, A-6, A-2	0	0-5	85-100	80-100	60-85	30-85	20-40	1-15
	10-24	Sandy clay loam, clay loam, channery loam	ML, CL, SC, SM	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	24-40	Sandy clay loam, clay loam, channery loam	SM, SC, CL, ML	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	40-60	Channery sandy loam, very channery loam	SC-SM, ML, GC-GM, CL	A-2, A-4, A-6	0	0-15	60-100	50-95	40-95	30-75	20-40	1-15
	60-64	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index 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	
CoA: Cookport-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-24	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, GC, GM, ML	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	24-46	Sandy clay loam, clay loam, channery loam	SC, ML, SM, CL	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	46-54	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	54-64	Bedrock			---	---	---	---	---	---	---	---
	CoB: Cookport-----	0-6	Loam	SM, SC, ML, CL	A-2, A-4, A-6	0	0-5	85-100	80-100	60-85	30-85	20-40
6-22		Channery clay loam, sandy clay loam, channery loam	CL, SM, SC, ML	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
22-39		Channery sandy clay loam, clay loam, channery loam	CL, SC, SM, ML	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
39-48		Channery sandy loam, channery loam	CL, GC-GM, ML, SC-SM	A-6, A-2, A-4	0	0-15	60-100	50-95	40-95	30-75	20-40	1-15
48-52		Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
CpB: Cookport-----	0-8	Channery loam	CL, SM, SC, ML	A-4, A-6, A-2	0-5	2-40	75-95	60-70	50-60	30-55	20-40	1-15
	8-23	Sandy clay loam, clay loam, channery loam	CL, ML, SC, SM	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	23-40	Channery sandy clay loam, clay loam, channery loam	ML, CL, SC, SM	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	40-46	Channery sandy loam, very channery loam	SC-SM, ML, CL, GC-GM	A-2, A-4, A-6	0-2	0-15	60-100	50-95	40-95	30-75	20-40	1-15
	46-50	Bedrock			---	---	---	---	---	---	---	---
CpD: Cookport-----	0-8	Channery loam	CL, ML, SC, SM	A-4, A-6, A-2	0-5	2-40	75-95	60-70	50-60	30-55	20-40	1-15
	8-23	Sandy clay loam, clay loam, channery loam	SM, SC, ML, CL	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	23-40	Channery sandy clay loam, clay loam, channery loam	CL, ML, SC, SM	A-4, A-6	0	0-15	85-100	65-100	55-95	40-75	20-40	4-20
	40-46	Channery sandy loam, very channery loam	CL, GC-GM, ML, SC-SM	A-2, A-4, A-6	0-2	0-15	60-100	50-95	40-95	30-75	20-40	1-15
	46-50	Bedrock			---	---	---	---	---	---	---	---
Cr: Craigsville-----	0-5	Gravelly loam	SM, CL-ML, ML, SC	A-2, A-4	0-5	0-25	65-90	60-85	40-75	25-60	0-25	NP-10
	5-32	Very gravelly loam, very gravelly sandy loam	SM, GC, GM, SC	A-1, A-2, A-4	0-10	10-60	50-80	30-65	25-60	15-40	0-25	NP-10
	32-65	Extremely gravelly sandy loam, loamy sand	GP-GM, GC, GC-GM, GM	A-1, A-2	5-20	5-50	30-55	30-50	20-45	10-25	0-25	NP-8

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Fr: Freetown-----	0-12	Mucky peat	PT	A-8	0	0	---	---	---	---	---	---
	12-65	Muck, mucky peat	PT	A-8	0	0	---	---	---	---	---	---
GpB: Gilpin-----	0-3	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	80-95	75-90	70-85	65-80	20-40	4-15
	3-11	Channery silt loam, loam, silty clay loam, clay loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	11-29	Channery silty clay loam, silt loam, loam	GC, GC-GM	A-1, A-2, A-4, A-6	0-3	0-35	25-95	20-90	15-45	15-40	20-40	4-15
	29-39	Bedrock			---	---	---	---	---	---	---	---
GpC: Gilpin-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0-5	80-95	75-90	70-85	65-80	20-40	4-15
	3-11	Channery silt loam, loam, silty clay loam, clay loam	SC, CL, CL-ML, GC	A-2, A-4, A-6	0	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	11-29	Silty clay loam, silt loam, loam	GC-GM, GC	A-1, A-2, A-4, A-6	0-3	0-35	25-95	20-90	15-45	15-40	20-40	4-15
	29-39	Bedrock			---	---	---	---	---	---	---	---
GwD: Gilpin-----	0-3	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	80-95	75-90	70-85	65-80	20-40	4-15
	3-11	Channery silt loam, loam, silty clay loam, clay loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	11-29	Silty clay loam, silt loam, loam	GC-GM, GC	A-1, A-2, A-4, A-6	0-3	0-35	25-95	20-90	15-45	15-40	20-40	4-15
	29-39	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
GwD: Wharton-----	0-4	Silt loam	CL, ML	A-4, A-6	0	1-5	95-100	90-100	80-95	70-90	27-43	9-17
	4-20	Silty clay loam, loam, silt loam	CL, ML	A-7, A-6	0	0-15	75-100	70-100	65-95	60-90	35-45	10-25
	20-45	Channery silty clay loam, channery loam, channery silt loam	SM, ML, GM	A-2, A-4, A-6, A-7	0	0-40	45-100	30-100	25-95	25-90	30-45	5-15
	45-65	Very channery silty clay loam, very channery loam, very channery silt loam			0	0-40	60-90	45-80	40-80	35-75	20-30	NP-7
HeA: Hagerstown-----	0-9	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0-15	85-100	80-100	80-100	70-95	20-34	3-11
	9-14	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	90-100	80-100	75-100	55-95	29-61	10-28
	14-44	Clay, silty clay loam, silty clay	MH, CL, CH	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	38-61	15-28
	44-54	Bedrock			---	---	---	---	---	---	---	---
HeB: Hagerstown-----	0-9	Silty clay loam, silt loam	CL-ML, CL, ML	A-4, A-6	0	0-15	85-100	80-100	80-100	70-95	20-34	3-11
	9-14	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	90-100	80-100	75-100	55-95	29-61	10-28
	14-44	Clay, silty clay loam, silty clay	CH, CL, MH	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	38-61	15-28
	44-54	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HeC: Hagerstown-----	0-9	Silty clay loam, silt loam	ML, CL, CL-ML	A-4, A-6	0	0-15	85-100	80-100	80-100	70-95	20-34	3-11
	9-14	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	90-100	80-100	75-100	55-95	29-61	10-28
	14-44	Clay, silty clay loam, silty clay	MH, CH, CL	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	38-61	15-28
	44-54	Bedrock			---	---	---	---	---	---	---	---
HfB: Hagerstown-----	0-9	Silty clay loam, silt loam	CL-ML, CL, ML	A-4, A-6	0	0-15	85-100	80-100	80-100	70-95	20-34	3-11
	9-14	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	90-100	80-100	75-100	55-95	29-61	10-28
	14-44	Clay, silty clay loam, silty clay	CL, CH, MH	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	38-61	15-28
	44-54	Bedrock			---	---	---	---	---	---	---	---
HgC: Hagerstown-----	0-6	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0-15	85-100	80-100	80-100	70-95	20-34	3-11
	6-18	Silty clay loam, silty clay, clay	CH, ML, CL	A-6, A-7	0	0-5	90-100	80-100	75-100	55-95	29-61	10-28
	18-42	Clay, silty clay loam, silty clay	MH, CH, CL	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	38-61	15-28
	42-52	Bedrock			---	---	---	---	---	---	---	---
Opequon-----	0-7	Silty clay loam	CH, CL, MH	A-6, A-7	0	0-5	85-100	80-100	80-100	75-95	30-55	10-30
	7-14	Clay loam, silty clay loam, clay, silty clay	CH, CL, MH	A-6, A-7	0-5	0-10	80-100	60-100	60-100	55-95	35-65	15-40
	14-24	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HhA: Hartleton-----	0-8	Channery silt loam	ML, SM	A-4	0	10-20	80-95	70-90	60-90	45-80	0-14	---
	8-34	Very channery silt loam, very channery loam, very channery silty clay loam	GM, ML, SM	A-2, A-4	0	25-65	60-90	45-80	40-80	30-75	20-30	NP-7
	34-48	Extremely channery loam, extremely channery silt loam	GM, ML, SM	A-1, A-2, A-4	0-1	55-85	40-80	25-70	20-70	15-60	20-30	NP-7
	48-58	Bedrock			---	---	---	---	---	---	---	---
HhB: Hartleton-----	0-8	Channery silt loam	ML, SM	A-4	0	10-20	80-95	70-90	60-90	45-80	0-14	---
	8-34	Very channery silt loam, very channery loam, very channery silty clay loam	GM, ML, SM	A-2, A-4	0	25-65	60-90	45-80	40-80	30-75	20-30	NP-7
	34-48	Extremely channery loam, extremely channery silt loam	GM, ML, SM	A-1, A-2, A-4	0-1	55-85	40-80	25-70	20-70	15-60	20-30	NP-7
	48-58	Bedrock			---	---	---	---	---	---	---	---
HhC: Hartleton-----	0-8	Channery silt loam	ML, SM	A-4	0	10-20	80-95	70-90	60-90	45-80	0-14	---
	8-34	Very channery silt loam, very channery loam, very channery silty clay loam	SM, GM, ML	A-2, A-4	0	25-65	60-90	45-80	40-80	30-75	20-30	NP-7
	34-48	Extremely channery loam, extremely channery silt loam	SM, GM, ML	A-1, A-2, A-4	0-1	55-85	40-80	25-70	20-70	15-60	20-30	NP-7
	48-58	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HjC: Hazleton-----	0-3	Channery loam, channery sandy loam	SM, GM, ML, SC-SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	GC, GM, SC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
HkE: Hazleton-----	0-3	Channery loam, channery sandy loam	GM, ML, SC-SM, SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	SM, SC, GC, GM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
HlB: Clymer-----	0-2	Channery loam, sandy loam, loam	ML, SM	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GC, GM, ML, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GC, GM, GP-GM, SM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HLB: Hazleton-----	0-3	Channery loam, channery sandy loam	GM, ML, SC-SM, SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	GC, GM, SC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
H1C: Clymer-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GM, GC, ML, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	SM, GP-GM, GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
Hazleton-----	0-3	Channery loam, channery sandy loam	GM, ML, SC-SM, SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	SM, SC, GM, GC	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
H1D: Clymer-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GM, SM, GP-GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
Hazleton-----	0-3	Channery loam, channery sandy loam	ML, SM, SC-SM, GM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SM, SC	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	SM, SC, GM, GC	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
HmB: Hazleton-----	0-3	Channery loam, channery sandy loam	GM, ML, SC-SM, SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	SM, SC, GM, ML	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	GC, GM, SC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HmB: Clymer-----	0-2	Channery loam, sandy loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GM, GC, SM, ML	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	SM, GM, GP-GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
HmD: Hazleton-----	0-3	Channery loam, channery sandy loam	SM, SC-SM, GM, ML	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	GM, ML, SC, SM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	GC, GM, SC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HmD: Clymer-----	0-2	Sandy loam, channery loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-28	Channery silt loam, channery loam, channery sandy loam, channery clay loam	SM, ML, GM, GC	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	28-50	Channery sandy loam, channery silt loam, channery loam, channery clay loam	SM, GC, GP-GM, GM	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	50-60	Bedrock			---	---	---	---	---	---	---	---
HoF: Hazleton-----	0-3	Channery loam, channery sandy loam	GM, ML, SM, SC-SM	A-4	5-20	10-50	60-85	50-80	50-70	35-55	10-25	NP-8
	3-42	Channery sandy loam, channery loam	SM, SC, ML, GM	A-1, A-2, A-4	0-5	10-50	60-95	45-90	35-70	20-55	15-30	NP-8
	42-58	Very channery loam, very channery sandy loam, very channery loamy sand	SC, GM, GC, SM	A-1, A-2, A-4	2-10	5-60	50-80	35-75	25-65	15-50	15-30	NP-8
	58-68	Bedrock			---	---	---	---	---	---	---	---
Laidig-----	0-3	Extremely stony loam	CL-ML, GC-GM, SC-SM, SM	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	CL-ML, GC, GC-GM, SC	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
HuB: Hustontown-----	0-7	Silt loam	CL, ML	A-4	0	0-10	80-100	80-95	70-90	55-80	15-30	5-10
	7-24	Silt loam, silty clay loam, clay loam	SM, SC, ML, CL	A-4, A-6	0	0-15	80-100	70-95	60-90	40-85	25-40	3-15
	24-30	Channery silty clay loam, channery silt loam, clay loam	ML, SM, CL, SC	A-4, A-6	0	0-15	80-100	65-95	60-90	40-85	25-40	3-15
	30-65	Channery silt loam, channery loam, channery clay loam	SC, SC-SM, CL, ML	A-2, A-4, A-6	0	0-15	60-100	40-90	35-85	25-80	20-40	3-15
HuC: Hustontown-----	0-7	Silt loam	CL, ML	A-4	0	0-10	80-100	80-95	70-90	55-80	15-30	5-10
	7-24	Silt loam, silty clay loam, clay loam	CL, ML, SC, SM	A-4, A-6	0	0-15	80-100	70-95	60-90	40-85	25-40	3-15
	24-30	Channery silty clay loam, channery silt loam, clay loam	SC, CL, ML, SM	A-4, A-6	0	0-15	80-100	65-95	60-90	40-85	25-40	3-15
	30-65	Channery silt loam, channery loam, channery clay loam	ML, SC-SM, SC, CL	A-2, A-4, A-6	0	0-15	60-100	40-90	35-85	25-80	20-40	3-15
HuD: Hustontown-----	0-7	Silt loam	ML, CL	A-4	0	0-10	80-100	80-95	70-90	55-80	15-30	5-10
	7-24	Silt loam, silty clay loam, clay loam	SM, SC, ML, CL	A-4, A-6	0	0-15	80-100	70-95	60-90	40-85	25-40	3-15
	24-30	Channery silty clay loam, channery silt loam, clay loam	CL, SC, SM, ML	A-4, A-6	0	0-15	80-100	65-95	60-90	40-85	25-40	3-15
	30-65	Channery silt loam, channery loam, channery clay loam	CL, ML, SC, SC-SM	A-2, A-4, A-6	0	0-15	60-100	40-90	35-85	25-80	20-40	3-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
KcD: Klinesville-----	0-3	Channery silt loam	GM, GC-GM, SM	A-2, A-4	0	0-10	55-85	45-75	35-50	25-40	10-20	NP-5
	3-15	Channery silt loam, loam	GM, GP, SM, SP	A-1, A-2, A-4	0	0-10	25-80	15-70	10-50	4-40	20-35	NP-9
	15-17	Very flaggy silt loam, loam	GM, GP, SM, SP	A-1, A-2	0-25	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	17-27	Bedrock			---	---	---	---	---	---	---	---
KcE: Klinesville-----	0-3	Channery silt loam	GC-GM, SM, GM	A-2, A-4	0	0-10	55-85	45-75	35-50	25-40	10-20	NP-5
	3-15	Channery silt loam, loam	SP, GP, SM, GM	A-1, A-2, A-4	0	0-10	25-80	15-70	10-50	4-40	20-35	NP-9
	15-17	Very flaggy silt loam, loam	GM, GP, SM, SP	A-1, A-2	0-25	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	17-27	Bedrock			---	---	---	---	---	---	---	---
KrA: Kreamer-----	0-8	Silt loam	ML	A-4	0	0	85-95	75-95	70-90	55-85	0-14	---
	8-48	Clay loam, silty clay loam, silty clay	SM, ML, GM	A-4, A-6, A-7	0	0-10	60-95	45-90	40-90	35-85	35-49	9-20
	48-65	Silty clay, clay loam, silty clay loam	SC, GC, CL	A-4, A-6, A-7	0	0-10	60-95	45-90	40-90	35-85	25-45	7-20
LaB: Laidig-----	0-3	Extremely stony loam	CL-ML, GC-GM, SC-SM, SM	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	SM, SC, CL, ML	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	GC-GM, CL-ML, GC, SC	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
LaC: Laidig-----	0-3	Extremely stony loam	SM, GC-GM, CL-ML, SC-SM	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	CL-ML, GC, GC-GM, SC	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16
LaD: Laidig-----	0-3	Extremely stony loam	SM, SC-SM, GC-GM, CL-ML	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	CL-ML, GC, GC-GM, SC	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16
LdB: Laidig-----	0-3	Extremely stony loam	CL-ML, GC-GM, SC-SM, SM	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	SC, GC-GM, GC, CL-ML	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
LdC: Laidig-----	0-3	Extremely stony loam	CL-ML, GC-GM, SC-SM, SM	A-4	5-45	15-30	25-90	25-80	25-80	25-70	15-30	NP-10
	3-34	Gravelly silt loam, loam, clay loam, sandy loam	SC, SM, ML, CL	A-2, A-4, A-6	0-5	5-20	70-95	50-90	40-80	20-70	15-40	2-18
	34-65	Channery silty clay loam, silt loam, channery clay loam, very channery loam, channery sandy loam	SC, GC-GM, GC, CL-ML	A-2, A-4, A-6	0-5	5-20	50-90	40-85	30-80	15-70	15-35	2-16
LkB: Leck Kill-----	0-6	Channery silt loam	SM, ML, GM, CL-ML	A-4	0	0-5	70-85	60-80	50-80	35-70	14-30	2-10
	6-39	Channery silt loam, channery silty clay loam	CL-ML, GC, GM, SC	A-2, A-4, A-6	0	0-10	60-90	50-85	40-80	30-70	23-40	2-17
	39-42	Very flaggy loam, silt loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-25	0-30	30-70	10-50	8-30	6-25	25-40	2-13
	42-52	Bedrock			---	---	---	---	---	---	---	---
LkC: Leck Kill-----	0-6	Channery silt loam	ML, SM, GM, CL-ML	A-4	0	0-5	70-85	60-80	50-80	35-70	14-30	2-10
	6-39	Channery silt loam, channery silty clay loam	CL-ML, GC, GM, SC	A-2, A-4, A-6	0	0-10	60-90	50-85	40-80	30-70	23-40	2-17
	39-42	Very flaggy loam, silt loam	GM, SM, SP-SM, GP-GM	A-1, A-2	0-25	0-30	30-70	10-50	8-30	6-25	25-40	2-13
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index 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	
LkD: Leck Kill-----	0-6	Channery silt loam	CL-ML, SM, ML, GM	A-4	0	0-5	70-85	60-80	50-80	35-70	14-30	2-10
	6-39	Channery silt loam, channery silty clay loam	SC, GM, GC, CL-ML	A-2, A-4, A-6	0	0-10	60-90	50-85	40-80	30-70	23-40	2-17
	39-42	Very flaggy loam, silt loam	SP-SM, SM, GM, GP-GM	A-1, A-2	0-25	0-30	30-70	10-50	8-30	6-25	25-40	2-13
	42-52	Bedrock			---	---	---	---	---	---	---	---
LkE: Leck Kill-----	0-6	Channery silt loam	CL-ML, GM, ML, SM	A-4	0	0-5	70-85	60-80	50-80	35-70	14-30	2-10
	6-39	Channery silt loam, channery silty clay loam	CL-ML, SC, GC, GM	A-2, A-4, A-6	0	0-10	60-90	50-85	40-80	30-70	23-40	2-17
	39-42	Very flaggy loam, silt loam	GM, SP-SM, SM, GP-GM	A-1, A-2	0-25	0-30	30-70	10-50	8-30	6-25	25-40	2-13
	42-52	Bedrock			---	---	---	---	---	---	---	---
LmD: Leck Kill-----	0-3	Channery silt loam	ML, GM, CL-ML, SM	A-4	0	0-5	70-85	60-80	50-80	35-70	14-30	2-10
	3-39	Channery silt loam, channery silty clay loam	CL-ML, GC, GM, SC	A-2, A-4, A-6	0	0-10	60-90	50-85	40-80	30-70	23-40	2-17
	39-42	Very flaggy loam, silt loam	GP-GM, SM, GM, SP-SM	A-1, A-2	0-25	0-30	30-70	10-50	8-30	6-25	25-40	2-13
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
LnB: Leetonia-----	0-2	Extremely stony sandy loam, sandy loam	SW, SM, GW, GM	A-1, A-2, A-3	2-45	15-50	25-85	25-70	20-55	2-20	0-14	NP
	2-16	Coarse sand, channery loamy coarse sand, sandy loam	GW, SW, GM, SM	A-1, A-2, A-3	0-5	15-50	45-85	25-75	20-55	2-20	0-14	NP
	16-36	Loamy sand, loamy coarse sand, very channery coarse sand	SW, GM, GW, SM	A-1	0-10	20-40	45-70	35-65	20-35	2-15	0-14	NP
	36-48	Very channery coarse sand			0-10	20-40	45-70	35-65	20-35	2-15	0-14	NP
	48-58	Bedrock	SW, GM, GW, SM		---	---	---	---	---	---	---	---
LnC: Leetonia-----	0-2	Extremely stony coarse sand, sandy loam	SW, SM, GW, GM	A-1, A-2, A-3	2-45	15-50	25-85	25-70	20-55	2-20	0-14	NP
	2-16	Sand, channery loamy coarse sand, sandy loam	GW, SW, SM, GM	A-1, A-2, A-3	0-5	15-50	45-85	25-75	20-55	2-20	0-14	NP
	16-36	Loamy sand, loamy coarse sand, very channery coarse sand	GW, SM, SW, GM	A-1	---	20-40	45-70	35-65	20-35	2-15	0-14	NP
	36-48	Very channery coarse sand			0-10	20-40	45-70	35-65	20-35	2-15	0-14	NP
	48-58	Bedrock	GM, GW, SM, SW		---	---	---	---	---	---	---	---
Lo: Linden-----	0-12	Silt loam	SM, ML	A-4	0	0	80-100	80-100	65-100	40-90	0-14	---
	12-48	Gravelly silt loam, loam, sandy loam	SM, ML	A-2, A-4	0	0-5	80-100	65-100	40-95	25-90	0-30	NP-3
	48-70	Sandy loam, loam, gravelly sandy loam	SP-SM, SM, GM, ML	A-2, A-3, A-4, A-1	0-1	0-20	40-100	30-100	15-90	5-75	0-25	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Lr: Linden-----	0-12	Silt loam	SM, ML	A-4	0	0	80-100	80-100	65-100	40-90	0-14	---
	12-48	Gravelly silt loam, loam, sandy loam	SM, ML	A-2, A-4	0	0-5	80-100	65-100	40-95	25-90	0-30	NP-3
	48-70	Sandy loam, loam, gravelly sandy loam	ML, SM, SP-SM, GM	A-2, A-3, A-4, A-1	0-1	0-20	40-100	30-100	15-90	5-75	0-25	NP-5
MeB: Meckesville----	0-4	Loam, silt loam	ML	A-4	0	0-10	90-100	85-95	70-85	55-70	30-40	5-10
	4-35	Channery silt loam, silty clay loam	ML, CL	A-4, A-6	0-1	0-20	60-100	60-95	60-90	55-70	25-40	2-15
	35-66	Channery silt loam, loam, silty clay loam	CL-ML, GM, SC, ML	A-2, A-4	0-1	0-20	45-95	40-90	35-85	30-65	20-30	2-10
MeC: Meckesville----	0-4	Loam, silt loam	ML	A-4	0	0-10	90-100	85-95	70-85	55-70	30-40	5-10
	4-35	Channery silt loam, silty clay loam	ML, CL	A-4, A-6	0-1	0-20	60-100	60-95	60-90	55-70	25-40	2-15
	35-66	Channery silt loam, loam, silty clay loam	SC, ML, GM, CL-ML	A-2, A-4	0-1	0-20	45-95	40-90	35-85	30-65	20-30	2-10
MeD: Meckesville----	0-4	Loam, silt loam	ML	A-4	0	0-10	90-100	85-95	70-85	55-70	30-40	5-10
	4-35	Channery silt loam, silty clay loam	ML, CL	A-4, A-6	0-1	0-20	60-100	60-95	60-90	55-70	25-40	2-15
	35-66	Channery silt loam, loam, silty clay loam	CL-ML, GM, ML, SC	A-2, A-4	0-1	0-20	45-95	40-90	35-85	30-65	20-30	2-10
MhD: Meckesville----	0-4	Loam, silt loam	ML	A-4	0	0-10	90-100	85-95	70-85	55-70	30-40	5-10
	4-35	Channery silt loam, silty clay loam	CL, ML	A-4, A-6	0-1	0-20	60-100	60-95	60-90	55-70	25-40	2-15
	35-66	Channery silt loam, loam, silty clay loam	GM, CL-ML, ML, SC	A-2, A-4	0-1	0-20	45-95	40-90	35-85	30-65	20-30	2-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Mn: Melvin-----	0-12	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	80-100	80-95	25-35	4-10
	12-36	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-100	80-98	25-40	5-20
	36-60	Gravelly loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0-8	85-100	70-100	70-100	60-98	25-40	5-20
Newark-----	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	80-100	55-95	0-32	NP-10
	8-39	Silty clay loam, silt loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	95-100	90-100	85-100	70-100	22-42	3-20
	39-60	Very gravelly silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0-8	75-100	45-100	45-100	45-95	22-42	3-20
MoB: Morrison-----	0-1	Loamy sand, channery sandy loam	ML, SM	A-2, A-4	0	0-10	80-100	60-70	50-65	25-55	0-14	---
	1-65	Sandy clay, sandy loam, loam, sandy clay loam	SM, ML	A-2, A-4	0-1	0-15	80-100	60-100	55-80	25-55	0-35	NP-10
MoC: Morrison-----	0-1	Loamy sand, channery sandy loam	SM, ML	A-2, A-4	0	0-10	80-100	60-70	50-65	25-55	0-14	---
	1-65	Sandy clay, sandy loam, loam, sandy clay loam	SM, ML	A-2, A-4	0-1	0-15	80-100	60-100	55-80	25-55	0-35	NP-10
MuA: Murrill-----	0-8	Silt loam	SC, ML, SC-SM, CL	A-4, A-6	0	0	75-95	75-90	60-85	40-75	20-40	3-15
	8-52	Gravelly silt loam, silty clay loam, loam, clay loam	CL-ML, ML, CL	A-4, A-6, A-7	0	0-15	65-85	60-70	55-65	50-65	20-50	5-25
	52-72	Silty clay loam, clay loam, silty clay, loam	MH, CH, CL	A-6, A-7	0-1	0-20	80-100	65-100	60-100	55-100	35-75	20-40

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
MuB: Murrill-----	0-8	Silt loam	SC-SM, SC, ML, CL	A-4, A-6	0	0	75-95	75-90	60-85	40-75	20-40	3-15
	8-52	Gravelly silt loam, silty clay loam, loam, clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0-15	65-85	60-70	55-65	50-65	20-50	5-25
	52-72	Silty clay loam, clay loam, silty clay, loam	CH, MH, CL	A-6, A-7	0-1	0-20	80-100	65-100	60-100	55-100	35-75	20-40
MuC: Murrill-----	0-8	Silt loam	ML, CL, SC, SC-SM	A-4, A-6	0	0	75-95	75-90	60-85	40-75	20-40	3-15
	8-52	Gravelly silt loam, silty clay loam, loam, clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0-15	65-85	60-70	55-65	50-65	20-50	5-25
	52-72	Silty clay loam, clay loam, silty clay, loam	CH, CL, MH	A-6, A-7	0-1	0-20	80-100	65-100	60-100	55-100	35-75	20-40
MuD: Murrill-----	0-8	Silt loam	CL, ML, SC, SC-SM	A-4, A-6	0	0	75-95	75-90	60-85	40-75	20-40	3-15
	8-52	Gravelly silt loam, silty clay loam, loam, clay loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0-15	65-85	60-70	55-65	50-65	20-50	5-25
	52-72	Silty clay loam, clay loam, silty clay, loam	CH, MH, CL	A-6, A-7	0-1	0-20	80-100	65-100	60-100	55-100	35-75	20-40
NoA: Nolo-----	0-5	Stony silt loam	ML	A-4	0-20	0-15	65-100	60-100	60-100	55-90	0-14	---
	5-19	Channery silt loam, loam	CL-ML, ML	A-4, A-6	0	0-15	80-100	70-100	70-95	55-85	25-40	4-11
	19-44	Channery loam	CL, GC, SC, CL-ML	A-4, A-6	0-1	0-15	60-100	60-90	55-85	35-70	25-35	4-11
	44-54	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
NsA: Nolo-----	0-5	Stony silt loam	ML	A-4	0-20	0-15	65-100	60-100	60-100	55-90	0-14	---
	5-19	Channery silt loam, loam	CL-ML, ML	A-4, A-6	0	0-15	80-100	70-100	70-95	55-85	25-40	4-11
	19-44	Channery loam	SC, GC, CL-ML, CL	A-4, A-6	0-1	0-15	60-100	60-90	55-85	35-70	25-35	4-11
	44-54	Bedrock			---	---	---	---	---	---	---	---
OeE: Opequon-----	0-7	Silty clay loam	MH, CH, CL	A-7, A-6	0	0-5	85-100	80-100	80-100	75-95	30-55	10-30
	7-14	Clay loam, silty clay loam, clay, silty clay	MH, CL, CH	A-6, A-7	0-5	0-10	80-100	60-100	60-100	55-95	35-65	15-40
	14-24	Bedrock			---	---	---	---	---	---	---	---
OhD: Opequon-----	0-7	Silty clay loam	MH, CL, CH	A-7, A-6	0	0-5	85-100	80-100	80-100	75-95	30-55	10-30
	7-14	Clay loam, silty clay loam, clay, silty clay	CH, CL, MH	A-6, A-7	0-5	0-10	80-100	60-100	60-100	55-95	35-65	15-40
	14-24	Bedrock			---	---	---	---	---	---	---	---
Hagerstown-----	0-9	Silty clay loam	CL	A-4, A-6	0	0-3	90-100	85-100	80-100	60-90	25-32	8-12
	9-14	Silty clay loam, silty clay, clay	CL	A-6, A-7	0	0-3	90-100	85-100	80-100	70-95	38-45	15-20
	14-44	Clay, silty clay, silty clay loam	CL, CH	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	30-70	15-40
	44-54	Bedrock			---	---	---	---	---	---	---	---
OsD: Opequon-----	0-7	Silty clay loam	MH, CL, CH	A-7, A-6	0	0-5	85-100	80-100	80-100	75-95	30-55	10-30
	7-14	Clay loam, silty clay loam, clay, silty clay	CH, MH, CL	A-6, A-7	0-5	0-10	80-100	60-100	60-100	55-95	35-65	15-40
	14-24	Bedrock			---	---	---	---	---	---	---	---
Hagerstown-----	0-9	Silty clay loam	CL	A-4, A-6	0	0-3	90-100	85-100	80-100	60-90	25-32	8-12
	9-14	Silty clay loam, silty clay, clay	CL	A-6, A-7	0	0-3	90-100	85-100	80-100	70-95	38-45	15-20
	14-44	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7	0-1	0-5	85-100	80-100	75-100	75-95	30-70	15-40
	44-54	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
PaE: Pennval-----	0-5	Silt loam			0	0-2	85-100	85-100	70-95	60-95	20-35	2-10
	5-29	Gravelly silt loam, silty clay loam			0-1	0-3	65-90	65-90	25-75	20-65	20-45	4-20
	29-73	Gravelly clay loam, channery silty clay loam, channery silt loam			0-1	0-5	65-90	65-90	25-75	20-65	20-45	2-15
	73-88	Extremely channery clay loam, extremely channery silt loam, very channery silty clay loam			0-2	5-15	5-20	5-20	5-15	5-10	---	---
Pb: Philo-----	0-10	Silt loam	CL-ML, ML	A-4	0	0-5	95-100	80-100	75-90	60-80	20-35	1-10
	10-40	Silt loam, loam, sandy loam, fine sandy loam	SM, CL-ML, ML	A-4	0	0-5	95-100	75-100	70-90	45-80	20-35	1-10
	40-65	Silt loam, loam, very gravelly sandy loam	SM, CL-ML, GM, ML	A-2, A-4	0-5	0-25	55-95	40-90	40-85	30-80	15-30	1-10
Pc: Philo-----	0-10	Silt loam	CL-ML, ML	A-4	0	0-5	95-100	80-100	75-90	60-80	20-35	1-10
	10-40	Silt loam, loam, sandy loam, fine sandy loam	SM, ML, CL-ML	A-4	0	0-5	95-100	75-100	70-90	45-80	20-35	1-10
	40-65	Silt loam, loam, very gravelly sandy loam	GM, SM, ML, CL-ML	A-2, A-4	0-5	0-25	55-95	40-90	40-85	30-80	15-30	1-10
Linden-----	0-12	Silt loam	SM, ML	A-4	0	0	80-100	80-100	65-100	40-90	0-14	---
	12-48	Gravelly silt loam, loam, sandy loam	SM, ML	A-2, A-4	0	0-5	80-100	65-100	40-95	25-90	0-30	NP-3
	48-70	Sandy loam, loam, gravelly sandy loam	SP-SM, SM, ML, GM	A-2, A-3, A-4, A-1	0-1	0-20	40-100	30-100	15-90	5-75	0-25	NP-5

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Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Ps: Pits-----	---	---	---	---	---	---	---	---	---	---	---	---
Pt: Potomac-----	0-4	Gravelly sandy loam	SM, SC-SM, GC-GM, GM	A-1, A-4	0	0-25	50-87	40-75	30-65	15-50	15-20	NP-5
	4-65	Extremely gravelly sand, very gravelly loamy sand, very cobbly loamy sand	SW-SM, SM, GW-GM, GM	A-1	0	15-50	30-80	15-70	15-50	5-25	15-15	NP-3
Pu: Purdy-----	0-7	Silt loam	CL, ML	A-4, A-6, A-7	0	0	95-100	90-100	90-100	90-100	25-50	4-20
	7-44	Clay loam, clay, silty clay, silty clay loam	MH, CH, CL	A-6, A-7	0	0	95-100	90-100	85-100	75-85	30-65	11-30
	44-60	Clay, silty clay loam, silty clay	MH, CL, CH	A-6, A-7	0	0	95-100	90-100	85-100	70-95	30-65	11-30
Qu: Quarry-----	---	---	---	---	---	---	---	---	---	---	---	---
RaF: Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	0-60	Fragmental material	GP	A-1	25-80	75-90	0-10	0-5	0-5	0	---	NP
Rb: Rubble land-----	0-60	Fragmental material	GP	A-1	25-80	75-90	0-10	0-5	0-5	0	---	NP
TaA: Tilsit-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	60-100	20-35	4-15
	7-19	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	65-100	25-40	5-20
	19-65	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	90-100	85-100	75-100	65-100	25-45	5-25

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
TaB: Tilsit-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	60-100	20-35	4-15
	7-19	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	65-100	25-40	5-20
	19-65	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6, A-7	0	0	90-100	85-100	75-100	65-100	25-45	5-25
TaC: Tilsit-----	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-100	60-100	20-35	4-15
	7-19	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-100	65-100	25-40	5-20
	19-65	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6, A-7	0	0	90-100	85-100	75-100	65-100	25-45	5-25
TmA: Timberville----	0-12	Silt loam	CL-ML, SM, SC-SM, ML	A-4	0	0-3	85-100	75-100	55-95	35-85	0-25	NP-7
	12-32	Clay loam, silty clay loam, silt loam	CL, CL-ML, GC, GC-GM	A-4, A-6	0	0-5	55-100	50-100	40-90	35-85	15-40	5-20
	32-65	Clay loam, silty clay, silty clay loam, clay	CH, SC, GC, CL	A-6, A-7	0	0-10	55-95	50-95	45-90	40-85	35-60	14-32
TmB: Timberville----	0-12	Silt loam	CL-ML, ML, SC-SM, SM	A-4	0	0-3	85-100	75-100	55-95	35-85	0-25	NP-7
	12-32	Clay loam, silty clay loam, silt loam	CL, CL-ML, GC-GM, GC	A-4, A-6	0	0-5	55-100	50-100	40-90	35-85	15-40	5-20
	32-65	Clay loam, silty clay, silty clay loam, clay	CH, CL, GC, SC	A-6, A-7	0	0-10	55-95	50-95	45-90	40-85	35-60	14-32

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
UnB: Ungers-----	0-9	Loam	ML, CL	A-4	0	0-5	90-100	85-100	85-95	60-85	0-14	6-13
	9-33	Channery clay loam, loam, sandy clay loam	GM, ML, SM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	GC, GC-GM, GM, SM	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---
UnC: Ungers-----	0-9	Loam	ML, CL	A-4	0	0-5	90-100	85-100	85-95	60-85	0-14	6-13
	9-33	Channery clay loam, loam, sandy clay loam	GM, ML, SM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	GM, SM, GC-GM, GC	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---
UoB: Ungers-----	0-6	Loam	CL, ML	A-4	0-25	0-20	45-100	40-100	40-95	40-85	0-14	6-13
	6-33	Channery clay loam, loam, sandy clay loam	SM, ML, GM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	SM, GM, GC-GM, GC	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
UoC: Ungers-----	0-6	Loam	CL, ML	A-4	0-25	0-20	45-100	40-100	40-95	40-85	0-14	6-13
	6-33	Channery clay loam, loam, sandy clay loam	GM, ML, SM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	SM, GC, GC-GM, GM	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---
UoE: Ungers-----	0-6	Loam	ML, CL	A-4	0-25	0-20	45-100	40-100	40-95	40-85	0-14	6-13
	6-33	Channery clay loam, loam, sandy clay loam	SM, ML, GM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	GM, SM, GC, GC-GM	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---
UpF: Ungers-----	0-6	Loam	ML, CL	A-4	0-25	0-20	45-100	40-100	40-95	40-85	0-14	6-13
	6-33	Channery clay loam, loam, sandy clay loam	GM, ML, SM	A-2, A-4	0	0-10	60-95	40-90	30-70	25-55	25-35	1-10
	33-48	Very channery clay loam, loam, sandy loam, sandy clay loam	GC, GC-GM, GM, SM	A-1, A-2	0-1	0-15	55-85	25-50	20-40	15-30	20-35	NP-11
	48-58	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
UpF: Meckesville-----	0-4	Loam, silt loam	ML	A-4	0	0-10	90-100	85-95	70-85	55-70	30-40	5-10
	4-35	Channery silt loam, silty clay loam	ML, CL	A-4, A-6	0-1	0-20	60-100	60-95	60-90	55-70	25-40	2-15
	35-66	Channery silt loam, loam, silty clay loam	CL-ML, GM, SC, ML	A-2, A-4	0-1	0-20	45-95	40-90	35-85	30-65	20-30	2-10
UrC: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Berks-----	0-6	Channery silt loam	GC, GM, ML, SC	A-2, A-4	0	0-30	50-80	45-70	40-60	30-55	25-36	5-10
	6-26	Very channery silt loam, very channery loam, silty clay loam	SM, GM	A-1, A-2	0	0-40	35-65	25-55	20-40	15-35	24-38	2-10
	26-36	Bedrock			---	---	---	---	---	---	---	---
UsB: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Comly-----	0-9	Silt loam	ML	A-4	0	0	90-100	75-100	70-95	55-95	0-14	---
	9-23	Channery silt loam, channery silty clay loam	SC-SM, GC-GM, CL, CL-ML	A-1, A-2, A-4	0	0-5	50-85	30-80	25-80	20-70	20-30	4-10
	23-48	Very flaggy silt loam, very flaggy loam	CL	A-4, A-6	0	0-40	50-100	40-100	40-95	40-90	25-40	7-15
	48-65	Extremely flaggy silt loam, extremely flaggy loam			0-15	40-75	35-85	15-80	15-80	15-70	20-30	4-10
	65-75	Weathered bedrock			---	---	---	---	---	---	---	---
UsC: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
UsC: Comly-----	0-9	Silt loam	ML	A-4	0	0	90-100	75-100	70-95	55-95	0-14	---
	9-23	Channery silt loam, channery silty clay loam	CL-ML, GC-GM, SC-SM, CL	A-1, A-2, A-4	0	0-5	50-85	30-80	25-80	20-70	20-30	4-10
	23-48	Very flaggy silt loam, very flaggy loam	CL	A-4, A-6	0	0-40	50-100	40-100	40-95	40-90	25-40	7-15
	48-65	Extremely flaggy silt loam, extremely flaggy loam			0-15	40-75	35-85	15-80	15-80	15-70	20-30	4-10
	65-75	Bedrock			---	---	---	---	---	---	---	---
Ut: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Linden-----	0-12	Silt loam	ML, SM	A-4	0	0	80-100	80-100	65-100	40-90	0-14	---
	12-48	Gravelly silt loam, loam, sandy loam	ML, SM	A-2, A-4	0	0-5	80-100	65-100	40-95	25-90	0-30	NP-3
	48-70	Sandy loam, loam, gravelly sandy loam	SP-SM, ML, SM, GM	A-2, A-3, A-4, A-1	0-1	0-20	40-100	30-100	15-90	5-75	0-25	NP-5
WaA: Watson-----	0-9	Silt loam	CL, ML	A-4	0	0-5	80-100	80-100	65-95	60-95	0-14	---
	9-24	Silty clay loam, silt loam, loam, clay loam	CL, GC, SC	A-4, A-6, A-7	0	0-10	70-100	55-95	50-95	35-90	25-45	8-20
	24-65	Cobbly silt loam, silty clay loam, loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0-1	0-15	55-100	50-100	45-95	30-85	25-39	4-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
WbB: Wharton-----	0-4	Silt loam	CL, ML	A-4, A-6	0	1-5	95-100	90-100	80-95	70-90	27-43	9-17
	4-20	Silty clay loam, loam, silt loam	CL, ML	A-7, A-6	0	0-15	75-100	70-100	65-95	60-90	35-45	10-25
	20-45	Channery silty clay loam, channery loam, channery silt loam	GM, ML, SM	A-2, A-4, A-6, A-7	0	0-40	45-100	30-100	25-95	25-90	30-45	5-15
	45-65	Very channery loam, very channery silt loam, very channery silty clay loam			0	0-40	60-90	45-80	40-80	35-75	20-30	NP-7
WbC: Wharton-----	0-4	Silt loam	ML, CL	A-4, A-6	0	1-5	95-100	90-100	80-95	70-90	27-43	9-17
	4-20	Silty clay loam, loam, silt loam	ML, CL	A-7, A-6	0	0-15	75-100	70-100	65-95	60-90	35-45	10-25
	20-45	Channery silt loam, channery silty clay loam, channery loam	GM, ML, SM	A-2, A-4, A-6, A-7	0	0-40	45-100	30-100	25-95	25-90	30-45	5-15
	45-65	Very channery silty clay loam, very channery loam, very channery silt loam			0	0-40	60-90	45-80	40-80	35-75	20-30	NP-7

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
WeB: Wharton-----	0-4	Silt loam	CL, ML	A-4, A-6	0	1-5	95-100	90-100	80-95	70-90	27-43	9-17
	4-20	Silt loam, silty clay loam, loam	CL, ML	A-7, A-6	0	0-15	75-100	70-100	65-95	60-90	35-45	10-25
	20-45	Channery silt loam, channery silty clay loam, channery loam	GM, ML, SM	A-2, A-4, A-6, A-7	0	0-40	45-100	30-100	25-95	25-90	30-45	5-15
	45-65	Very channery silty clay loam, very channery loam, very channery silt loam			0	0-40	60-90	45-80	40-80	35-75	20-30	NP-7
WgB: Wharton-----	0-4	Silt loam	ML, CL	A-4, A-6	0	1-5	95-100	90-100	80-95	70-90	27-43	9-17
	4-20	Silty clay loam, loam, silt loam	CL, ML	A-7, A-6	0	0-15	75-100	70-100	65-95	60-90	35-45	10-25
	20-45	Channery silt loam, channery loam, channery silty clay loam	SM, ML, GM	A-2, A-4, A-6, A-7	0	0-40	45-100	30-100	25-95	25-90	30-45	5-15
	45-65	Very channery loam, very channery silty clay loam, very channery silt loam			0	0-40	60-90	45-80	40-80	35-75	20-30	NP-7

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
WgB: Cookport-----	0-2	Sandy loam, channery loam, loam	SM, ML	A-4	0	0-5	85-100	75-95	60-90	35-85	10-30	NP-9
	2-46	Channery silt loam, channery loam, channery sandy loam, channery clay loam	GC, GM, ML, SM	A-2, A-4	0-3	0-20	60-95	50-95	45-85	30-60	14-32	NP-9
	46-54	Channery sandy loam, channery silt loam, channery loam, channery clay loam	GP-GM, SM, GM, GC	A-1, A-2, A-3, A-4	0-8	10-30	30-75	25-70	20-60	5-40	14-32	NP-9
	54-64	Bedrock			---	---	---	---	---	---	---	---
WhA: Wheeling-----	0-9	Silt loam	CL, ML, SC, SM	A-4	0	0	90-100	90-100	85-100	45-90	15-35	NP-10
	9-47	Silt loam, loam, silty clay loam	SM, SC, ML, CL	A-4, A-6	0	0-5	90-100	70-100	65-100	45-80	20-40	2-20
	47-65	Fine sandy loam, loam, sandy loam, sand	GW, GM, GP, SM	A-1, A-2, A-3, A-4	0-1	0-20	35-95	20-90	10-65	4-45	0-20	NP-10
WyA: Wyoming-----	0-7	Very gravelly loam	GM, SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0-15	40-90	30-80	10-60	8-35	0-30	NP-5
	7-44	Very gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-25	40-75	35-70	5-55	5-35	0-30	NP-5
	44-65	Extremely gravelly loamy sand, sand, sandy loam	SW, SM, GW, GP-GM	A-1	0-5	5-30	30-65	20-55	5-50	1-12	0-25	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
WyB: Wyoming-----	0-7	Very gravelly loam	GM, SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0-15	40-90	30-80	10-60	8-35	0-30	NP-5
	7-44	Very gravelly sandy loam	GM, SM, SP-SM, GP-GM	A-1, A-2, A-3	0	0-25	40-75	35-70	5-55	5-35	0-30	NP-5
	44-65	Extremely gravelly loamy sand, sand, sandy loam	SW, SM, GW, GP-GM	A-1	0-5	5-30	30-65	20-55	5-50	1-12	0-25	NP-5
ZoA: Zoar-----	0-12	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	75-95	20-40	3-15
	12-46	Silty clay loam	CH, MH, CL, ML	A-6, A-7	0	0	95-100	95-100	90-100	85-100	30-55	11-32
	46-65	Clay loam, silty clay loam, silty clay	ML, MH, CL, CH	A-6, A-7	0	0	95-100	95-100	90-100	75-95	30-60	11-35

Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
AeB:														
Aeric Epiaquents---	0-32	20-50	30-65	20-40	0.90-1.30	0.2-6	0.02-0.06	0.0-2.9	1.0-3.0	.17	.24	2	6	48
	32-65	10-40	---	10-30	1.00-1.60	0.06-20	0.01-0.08	0.0-2.9	0.1-0.2	.17	.28			
AfD:														
Allegheny-----	0-6	15-40	50-75	1-25	1.20-1.40	2-6	0.07-0.15	0.0-2.9	1.0-4.0	.32	.32	3	5	56
	6-35	10-50	45-75	10-27	1.20-1.50	0.6-2	0.08-0.19	0.0-2.9	0.0-0.5	.28	.32			
	35-65	50-65	20-45	10-20	1.40-1.60	0.6-2	0.08-0.19	0.0-2.9	0.0-0.5	.28	.32			
AgB:														
Allenwood-----	0-11	15-35	50-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.24	.32	5	6	48
	11-44	10-30	20-50	25-50	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.17	.20			
	44-65	15-45	20-50	25-45	1.40-1.60	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.17	.24			
AgC:														
Allenwood-----	0-11	15-35	50-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.24	.32	5	6	48
	11-44	10-30	20-50	25-50	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.17	.20			
	44-65	15-45	20-50	25-45	1.40-1.60	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.17	.24			
AgD:														
Allenwood-----	0-11	15-35	50-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.24	.32	5	6	48
	11-44	10-30	20-50	25-50	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.17	.20			
	44-65	15-45	20-50	25-45	1.40-1.60	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.17	.24			
At:														
Atkins-----	0-16	10-35	50-70	10-30	1.20-1.40	0.6-2	0.14-0.22	0.0-2.9	2.0-4.0	.32	.32	5	8	0
	16-45	15-60	20-65	10-35	1.20-1.50	0.06-2	0.14-0.18	0.0-2.9	0.0-0.8	.32	.32			
	45-70	15-60	20-65	10-35	1.20-1.50	0.2-6	0.08-0.18	0.0-2.9	0.0-0.5	.28	.32			
Ba:														
Barbour-----	0-6	50-75	5-45	5-20	1.15-1.40	0.6-2	0.16-0.21	0.0-2.9	1.0-5.0	.32	.32	3	5	56
	6-20	20-75	10-65	5-20	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37			
	20-65	70-99	0-25	0-10	1.25-1.55	6-20	0.02-0.07	0.0-2.9	0.0-0.6	.17	.20			
Bb:														
Barbour-----	0-6	50-75	5-45	5-20	1.15-1.40	0.6-2	0.16-0.21	0.0-2.9	1.0-5.0	.32	.32	3	5	56
	6-20	20-75	10-65	5-20	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37			
	20-65	70-99	0-25	0-10	1.25-1.55	6-20	0.02-0.07	0.0-2.9	0.0-0.6	.17	.20			
Craigsville-----	0-5	30-50	30-50	10-25	1.20-1.40	2-20	0.07-0.15	0.0-2.9	1.0-5.0	.17	.28	3	3	86
	5-32	30-90	5-50	5-25	1.30-1.60	2-20	0.06-0.15	0.0-2.9	0.5-1.0	.17	.28			
	32-65	50-85	5-45	5-20	1.35-1.55	6-20	0.04-0.09	0.0-2.9	0.5-1.0	.17	.28			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Bc:														
Basher -----	0-10	15-35	50-75	6-25	1.15-1.40	0.6-2	0.15-0.21	0.0-2.9	1.0-5.0	.32	.32	5	5	56
	10-33	15-70	20-70	6-25	1.15-1.45	0.6-2	0.10-0.19	0.0-2.9	0.0-3.0	.32	.32			
	33-50	45-85	10-40	6-18	1.25-1.55	0.2-2	0.10-0.19	0.0-2.9	0.0-0.8	.32	.32			
	50-65	45-100	1-40	1-15	1.25-1.55	0.6-6	0.02-0.07	0.0-2.9	0.0-0.5	.17	.20			
BeB:														
Berks -----	0-6	10-40	50-80	5-23	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.17	.32	3	6	48
	6-26	10-40	40-75	5-33	1.20-1.60	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	26-36	---	---	---	---	0.2-20	0.00-0.00	---	---	---	---			
BeC:														
Berks -----	0-6	10-40	50-80	5-23	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.17	.32	3	6	48
	6-26	10-40	40-75	5-33	1.20-1.60	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	26-36	---	---	---	---	0.2-20	0.00-0.00	---	---	---	---			
BeD:														
Berks -----	0-6	10-40	50-80	5-23	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.17	.32	3	6	48
	6-26	10-40	40-75	5-33	1.20-1.60	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	26-36	---	---	---	---	0.2-20	0.00-0.00	---	---	---	---			
Weikert -----	0-6	10-40	50-80	5-23	1.20-1.40	2-6	0.08-0.14	0.0-2.9	1.0-4.0	.28	.32	2	8	0
	6-15	15-45	40-75	5-23	1.20-1.40	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.28	.32			
	15-25	---	---	---	---	0.6-20	---	---	---	---	---			
BeE:														
Berks -----	0-5	10-40	50-80	5-23	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.17	.32	3	6	48
	5-23	10-40	40-75	5-33	1.20-1.60	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	23-36	---	---	---	---	0.2-20	0.00-0.00	---	---	---	---			
Weikert -----	0-4	10-40	50-80	5-23	1.20-1.40	2-6	0.08-0.14	0.0-2.9	1.0-4.0	.28	.32	2	8	0
	4-15	15-45	40-75	5-23	1.20-1.40	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.28	.32			
	15-25	---	---	---	---	0.6-20	---	---	---	---	---			
BgA:														
Brinkerton -----	0-4	5-30	65-80	10-30	1.20-1.40	0.6-2	0.18-0.24	0.0-2.9	1.0-4.0	.32	.32	4	5	56
	4-30	10-40	40-70	15-35	1.20-1.50	0.6-2	0.14-0.18	3.0-5.9	0.0-0.5	.37	.37			
	30-65	10-40	40-70	15-35	1.40-1.55	0.06-0.6	0.14-0.18	0.0-2.9	0.0-0.5	.20	.28			
BhB:														
Buchanan -----	0-7	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	7-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
BhD:														
Buchanan-----	0-7	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	7-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
BmB:														
Buchanan-----	0-3	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	8	0
	3-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
BmC:														
Buchanan-----	0-3	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	8	0
	3-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
BuB:														
Buchanan-----	0-7	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	7-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
Andover-----	0-10	10-40	35-75	10-30	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	6	48
	10-22	15-50	30-60	10-35	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	22-55	15-45	35-60	18-40	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	55-65	15-45	35-60	18-40	1.40-1.70	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
BuC:														
Buchanan-----	0-7	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	7-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
Andover-----	0-10	10-40	35-75	10-30	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	6	48
	10-22	15-50	30-60	10-35	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	22-55	15-45	35-60	18-40	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	55-65	15-45	35-60	18-40	1.40-1.70	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
BxB:														
Buchanan-----	0-3	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	8	0
	3-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
Andover-----	0-8	10-40	35-75	10-30	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	5	56
	8-22	15-50	30-60	10-35	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	22-55	15-45	35-60	18-40	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	55-65	15-45	35-60	18-40	1.40-1.70	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
ExC:														
Buchanan-----	0-3	20-50	30-60	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	4	8	0
	3-21	20-50	30-60	15-32	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	21-65	20-50	30-60	15-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
Andover-----	0-8	10-40	35-75	10-30	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	5	56
	8-22	15-50	30-60	10-35	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.28			
	22-55	15-45	35-60	18-40	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	55-65	15-45	35-60	18-40	1.40-1.70	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
CaB:														
Calvin-----	0-1	10-30	50-75	10-25	1.20-1.40	2-6	0.10-0.16	0.0-2.9	1.0-3.0	.20	.24	3	6	48
	1-3	10-40	40-75	10-25	1.40-1.60	2-6	0.08-0.16	0.0-2.9	0.0-0.5	.20	.24			
	3-30	10-30	45-75	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.20	.28			
	30-40	---	---	---	---	0.2-2	---	---	---	---	---			
CaC:														
Calvin-----	0-1	10-30	50-75	10-25	1.20-1.40	2-6	0.10-0.16	0.0-2.9	1.0-3.0	.20	.24	3	6	48
	1-3	10-40	40-75	10-25	1.40-1.60	2-6	0.08-0.16	0.0-2.9	0.0-0.5	.20	.24			
	3-30	10-40	40-75	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.20	.28			
	30-40	---	---	---	---	0.2-2	---	---	---	---	---			
CbC:														
Cedar creek-----	0-24	25-50	30-60	5-30	1.30-1.50	2-6	0.02-0.06	0.0-2.9	0.0-1.0	.15	.20	3	6	48
	24-70	5-50	30-65	10-40	1.20-1.60	0.06-20	0.01-0.08	0.0-2.9	0.0-0.1	.15	.24			
CbD:														
Cedar creek-----	0-24	25-50	30-60	5-30	1.30-1.50	2-6	0.02-0.06	0.0-2.9	0.0-1.0	.15	.20	3	6	48
	24-70	5-50	30-65	10-40	1.20-1.60	0.06-20	0.01-0.08	0.0-2.9	0.0-0.1	.15	.24			
CbE:														
Cedar creek-----	0-24	25-50	30-60	5-30	1.30-1.50	2-6	0.02-0.06	0.0-2.9	0.0-1.0	.15	.20	3	8	0
	24-70	5-50	30-65	10-40	1.20-1.60	0.06-20	0.01-0.08	0.0-2.9	0.0-0.1	.15	.24			
CcA:														
Chenango-----	0-8	30-50	30-50	6-25	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	5	56
	8-27	15-65	30-65	6-25	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24			
	27-65	65-90	2-25	1-15	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-1.0	.17	.24			
CcB:														
Chenango-----	0-8	30-50	30-50	6-25	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	5	56
	8-27	15-65	30-65	6-25	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24			
	27-65	65-90	2-25	1-15	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-1.0	.17	.24			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
CdB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	5	56
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CdD: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	5	56
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CeA: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CeB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CeC: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CfB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	8	0
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
CgB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	8	0
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
Cookport-----	0-8	30-50	30-55	6-30	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	2.0-4.0	.24	.32	3	5	56
	8-22	30-50	30-55	6-30	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.1-0.5	.24	.28			
	22-46	30-50	30-55	6-30	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.1-0.2	.24	.28			
	46-54	30-50	30-55	6-30	1.20-1.50	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.2	.24	.28			
	54-64	---	---	---	---	0.00-6	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
ChB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	8	0
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
CmA: Comly-----	0-9	10-40	50-75	5-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-23	10-40	50-75	5-35	1.60-1.80	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.28	.32			
	23-48	10-40	40-70	5-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.1	.28	.28			
	48-65	15-45	30-70	5-27	---	0.06-2	---	0.0-2.9	0.0-0.1	.28	.37			
	65-75	---	---	---	---	0.00-0.06	---	---	---	---	---			
CmB: Comly-----	0-9	10-40	50-75	5-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-23	10-40	50-75	5-35	1.60-1.80	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.28	.32			
	23-48	10-40	40-70	5-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	48-65	15-45	30-70	5-27	---	0.06-2	---	0.0-2.9	0.0-0.1	.28	.37			
	65-75	---	---	---	---	0.00-0.06	---	---	---	---	---			
CmC: Comly-----	0-9	10-40	50-75	5-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-23	10-40	50-75	5-35	1.60-1.80	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.28	.32			
	23-48	10-40	40-70	5-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	48-65	15-45	30-70	5-27	---	0.06-2	---	0.0-2.9	0.0-0.1	.28	.37			
	65-75	---	---	---	---	0.00-0.06	---	---	---	---	---			
CnB: Cookport-----	0-10	---	---	10-27	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.37	.32	3	5	56
	10-24	---	---	18-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	24-40	---	---	18-35	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	40-60	---	---	10-27	1.20-1.50	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	60-64	---	---	---	---	0.01-0.6	---	---	---	---	---			
CoA: Cookport-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	5	56
	2-24	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	24-46	---	---	18-35	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	46-54	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.1	.15	.20			
	54-64	---	---	---	---	2-6	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
CoB: Cookport-----	0-6	---	---	10-27	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.32	.32	3	5	56
	6-22	---	---	18-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	22-39	---	---	18-35	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	39-48	---	---	10-27	1.20-1.50	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	48-52	---	---	---	---	0.06-0.6	---	---	---	---	---			
CpB: Cookport-----	0-8	---	---	10-27	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	2.0-4.0	.24	.32	3	5	56
	8-23	---	---	18-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	23-40	---	---	18-35	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	40-46	---	---	10-27	1.20-1.50	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	46-50	---	---	---	---	0.01-0.6	---	---	---	---	---			
CpD: Cookport-----	0-8	---	---	10-27	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	2.0-4.0	.24	.32	3	5	56
	8-23	---	---	18-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	23-40	---	---	18-35	1.40-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	40-46	---	---	10-27	1.20-1.50	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	46-50	---	---	---	---	0.01-0.6	---	---	---	---	---			
Cr: Craigsville-----	0-5	30-50	30-50	10-25	1.20-1.40	2-20	0.07-0.15	0.0-2.9	1.0-5.0	.17	.28	3	8	0
	5-32	30-90	5-50	5-25	1.30-1.60	2-20	0.06-0.15	0.0-2.9	0.5-1.0	.17	.28			
	32-65	50-85	5-45	5-20	1.35-1.55	6-20	0.04-0.09	0.0-2.9	0.5-1.0	.17	.28			
Fr: Freetown-----	0-12	---	---	0-0	0.10-0.30	0.6-6	0.35-0.45	0.0-2.9	50-99	.05	.05	3	8	0
	12-65	---	---	0-0	0.15-0.30	0.6-6	0.35-0.45	0.0-2.9	50-99	.05	.05			
GpB: Gilpin-----	0-3	10-35	50-80	1-26	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.5-4.0	.32	.32	3	8	0
	3-11	10-35	45-80	10-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	11-29	5-35	25-65	20-40	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	29-39	---	---	---	---	0.2-2	---	---	---	---	---			
GpC: Gilpin-----	0-3	10-35	50-80	1-26	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.5-4.0	.32	.32	3	8	0
	3-11	10-35	45-80	10-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	11-29	5-35	25-65	20-40	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	29-39	---	---	---	---	0.2-2	---	---	---	---	---			
GwD: Gilpin-----	0-3	10-35	50-80	1-26	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.5-4.0	.32	.32	3	8	0
	3-11	10-35	45-80	10-35	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	11-29	5-35	25-65	20-40	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	29-39	---	---	---	---	0.2-2	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
GwD:														
Wharton-----	0-4	10-35	45-75	1-26	1.10-1.30	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.37	.37	4	5	56
	4-20	5-25	45-75	5-35	1.20-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
	20-45	5-25	45-75	5-35	1.20-1.60	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.1	.17	.24			
	45-65	15-50	35-70	5-30	---	0.06-2	---	3.0-5.9	0.0-0.1	.17	.24			
HeA:														
Hagerstown-----	0-9	5-25	50-75	15-30	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-5.0	.32	.37	3	6	48
	9-14	1-16	35-65	25-60	1.20-1.40	0.6-2	0.14-0.20	3.0-5.9	0.0-1.0	.28	.32			
	14-44	1-40	25-55	35-60	1.20-1.60	0.6-2	0.14-0.20	3.0-5.9	0.0-0.5	.28	.32			
	44-54	---	---	---	---	2-6	---	---	---	---	---			
HeB:														
Hagerstown-----	0-9	5-25	50-75	15-30	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-5.0	.32	.37	3	6	48
	9-14	1-16	35-65	25-60	1.20-1.40	0.6-2	0.14-0.20	3.0-5.9	0.0-1.0	.28	.32			
	14-44	1-40	25-55	35-60	1.20-1.60	0.6-2	0.14-0.20	3.0-5.9	0.0-0.5	.28	.32			
	44-54	---	---	---	---	2-6	---	---	---	---	---			
HeC:														
Hagerstown-----	0-9	5-25	50-75	15-30	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-5.0	.32	.37	3	6	48
	9-14	1-16	35-65	25-60	1.20-1.40	0.6-2	0.14-0.20	3.0-5.9	0.0-1.0	.28	.32			
	14-44	1-40	25-55	35-60	1.20-1.60	0.6-2	0.14-0.20	3.0-5.9	0.0-0.5	.28	.32			
	44-54	---	---	---	---	2-6	---	---	---	---	---			
HfB:														
Hagerstown-----	0-9	5-25	50-75	15-30	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-5.0	.32	.37	3	6	48
	9-14	1-16	35-65	25-60	1.20-1.40	0.6-2	0.14-0.20	3.0-5.9	0.0-1.0	.28	.32			
	14-44	1-40	25-55	35-60	1.20-1.60	0.6-2	0.14-0.20	3.0-5.9	0.0-0.5	.28	.32			
	44-54	---	---	---	---	2-6	---	---	---	---	---			
HgC:														
Hagerstown-----	0-6	1-20	50-70	20-40	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-5.0	.32	.37	3	6	48
	6-18	1-16	35-65	25-60	1.20-1.40	0.6-2	0.14-0.20	3.0-5.9	0.0-1.0	.28	.32			
	18-42	1-40	25-55	35-60	1.20-1.60	0.6-2	0.14-0.20	3.0-5.9	0.0-0.5	.28	.32			
	42-52	---	---	---	---	0.00-0.01	---	---	---	---	---			
Opequon-----	0-7	1-16	40-70	27-45	1.20-1.50	0.2-2	0.16-0.21	6.0-8.9	1.0-4.0	.32	.32	1	7	38
	7-14	10-40	20-50	27-50	1.40-1.70	0.2-2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.17			
	14-24	---	---	---	---	2-6	---	---	---	---	---			
HhA:														
Hartleton-----	0-8	10-30	50-75	10-24	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.24	4	6	48
	8-34	15-35	40-70	7-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.20	.28			
	34-48	15-40	40-70	5-27	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.32			
	48-58	---	---	---	---	0.2-6	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HhB: Hartleton-----	0-8	10-30	50-75	10-24	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.24	4	6	48
	8-34	15-35	40-70	7-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.20	.28			
	34-48	15-40	40-70	5-27	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.32			
	48-58	---	---	---	---	0.2-6	---	---	---	---	---			
HhC: Hartleton-----	0-8	10-30	50-75	10-24	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.24	4	6	48
	8-34	15-35	40-70	7-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.20	.28			
	34-48	15-40	40-70	5-27	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.32			
	48-58	---	---	---	---	0.2-6	---	---	---	---	---			
HjC: Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
HkE: Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
HlB: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	6	48
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
HlC: Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	6	48
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HLD:														
Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	6	48
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	6	48
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
HmB:														
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	8	0
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
HmD:														
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
Clymer-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	8	0
	2-28	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	28-50	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.5	.15	.20			
	50-60	---	---	---	---	2-6	---	---	---	---	---			
HoF:														
Hazleton-----	0-3	45-70	15-40	5-27	1.20-1.40	2-6	0.10-0.16	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	3-42	45-70	15-40	5-27	1.20-1.40	2-20	0.08-0.12	0.0-2.9	0.0-0.5	.15	.20			
	42-58	45-75	15-40	5-27	1.20-1.40	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.20			
	58-68	---	---	---	---	2-6	---	---	---	---	---			
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	8	0
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
HuB:														
Hustontown-----	0-7	10-35	50-80	15-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.32	.37	4	4	56
	7-24	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	24-30	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	30-65	15-45	35-70	18-35	1.40-1.70	0.2-0.6	0.04-0.08	0.0-2.9	0.0-0.5	.28	.32			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HuC:														
Hustontown-----	0-7	10-35	50-80	15-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.32	.37	4	4	56
	7-24	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	24-30	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	30-65	15-45	35-70	18-35	1.40-1.70	0.2-0.6	0.04-0.08	0.0-2.9	0.0-0.5	.28	.32			
HuD:														
Hustontown-----	0-7	10-35	50-80	15-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.32	.37	4	4	56
	7-24	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	24-30	10-40	35-70	18-35	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	30-65	15-45	35-70	18-35	1.40-1.70	0.2-0.6	0.04-0.08	0.0-2.9	0.0-0.5	.28	.32			
KcD:														
Klinesville-----	0-3	10-30	50-75	15-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	3-15	15-50	40-75	10-25	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.2-0.5	.20	.28			
	15-17	15-50	40-75	10-25	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.2	.20	.28			
	17-27	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
KcE:														
Klinesville-----	0-3	10-30	50-75	15-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	3-15	15-50	40-75	10-25	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.2-0.5	.20	.28			
	15-17	15-50	40-75	10-25	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.2	.20	.28			
	17-27	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
KrA:														
Kreamer-----	0-8	10-35	50-75	10-25	1.30-1.50	0.6-2	0.14-0.18	0.0-2.9	0.7-2.0	.37	.37	3	7	38
	8-48	10-40	25-60	30-50	1.50-1.65	0.06-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.17	.20			
	48-65	5-30	25-60	30-50	1.50-1.65	0.06-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.17	.20			
LaB:														
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	5	56
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
LaC:														
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	5	56
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
LaD:														
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	5	56
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
LdB:														
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	8	0
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
LdC:														
Laidig-----	0-3	30-50	30-50	7-27	1.20-1.40	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.24	.32	4	8	0
	3-34	15-65	30-65	15-35	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	34-65	10-65	30-65	15-35	1.40-1.70	0.06-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
LkB:														
Leck Kill-----	0-6	10-40	50-80	10-25	1.20-1.50	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	6-39	5-35	50-80	17-32	1.40-1.70	0.6-6	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	39-42	20-50	35-70	15-30	1.30-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.28			
	42-52	---	---	---	---	0.2-6	0.00-0.00	---	---	---	---			
LkC:														
Leck Kill-----	0-6	10-40	50-80	10-25	1.20-1.50	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	6-39	5-35	50-80	17-32	1.40-1.70	0.6-6	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	39-42	20-50	35-70	15-30	1.30-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.28			
	42-52	---	---	---	---	0.2-6	0.00-0.00	---	---	---	---			
LkD:														
Leck Kill-----	0-6	10-40	50-80	10-25	1.20-1.50	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	6-39	5-35	50-80	17-32	1.40-1.70	0.6-6	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	39-42	20-50	35-70	15-30	1.30-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.28			
	42-52	---	---	---	---	0.2-6	0.00-0.00	---	---	---	---			
LkE:														
Leck Kill-----	0-6	10-40	50-80	10-25	1.20-1.50	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.24	.32	4	6	48
	6-39	5-35	50-80	17-32	1.40-1.70	0.6-6	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	39-42	20-50	35-70	15-30	1.30-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.28			
	42-52	---	---	---	---	0.2-6	0.00-0.00	---	---	---	---			
LmD:														
Leck Kill-----	0-3	10-40	50-80	10-25	1.20-1.50	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.24	.32	4	8	0
	3-39	5-35	50-80	17-32	1.40-1.70	0.6-6	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	39-42	20-50	35-70	15-30	1.30-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.28			
	42-52	---	---	---	---	0.2-6	0.00-0.00	---	---	---	---			
LnB:														
Leetonia-----	0-2	60-80	15-20	6-16	1.10-1.30	2-6	0.03-0.05	0.0-2.9	0.5-2.0	.17	.24	3	8	0
	2-16	60-100	1-35	1-15	1.10-1.30	2-6	0.03-0.05	0.0-2.9	0.0-0.5	.17	.28			
	16-36	85-100	1-20	3-10	1.10-1.30	6-20	0.02-0.03	0.0-2.9	0.0-0.5	.17	.24			
	36-48	85-100	1-20	3-10	1.10-1.30	6-20	0.02-0.03	0.0-2.9	0.0-0.1	.17	.24			
	48-58	---	---	---	---	2-6	---	---	---	---	---			
LnC:														
Leetonia-----	0-2	60-100	1-35	3-10	1.10-1.30	2-6	0.03-0.05	0.0-2.9	0.5-2.0	.17	.24	3	8	0
	2-16	60-100	1-35	1-15	1.10-1.30	2-6	0.03-0.05	0.0-2.9	0.0-0.5	.17	.28			
	16-36	85-100	1-20	3-10	1.10-1.30	6-20	0.02-0.03	0.0-2.9	0.0-0.5	.17	.24			
	36-48	85-100	1-20	3-10	1.10-1.30	6-20	0.02-0.03	0.0-2.9	0.0-0.1	.17	.24			
	48-58	---	---	---	---	---	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Lo:														
Linden-----	0-12	15-40	50-80	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	1.0-4.0	.37	.37	3	5	56
	12-48	20-65	30-70	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	48-70	40-70	20-50	5-25	1.20-1.40	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.20			
Lr:														
Linden-----	0-12	15-40	50-80	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	1.0-4.0	.37	.37	3	5	56
	12-48	20-65	30-70	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	48-70	40-70	20-50	5-25	1.20-1.40	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.20			
MeB:														
Meckesville-----	0-4	15-45	40-70	10-27	1.10-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.32	.32	4	5	56
	4-35	10-35	50-70	18-35	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-66	10-45	40-70	18-35	1.30-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
MeC:														
Meckesville-----	0-4	15-45	40-70	10-27	1.10-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.32	.32	4	5	56
	4-35	10-35	50-70	18-35	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-66	10-45	40-70	18-35	1.30-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
MeD:														
Meckesville-----	0-4	15-45	40-70	10-27	1.10-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.32	.32	4	5	56
	4-35	10-35	50-70	18-35	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-66	10-45	40-70	18-35	1.30-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
MhD:														
Meckesville-----	0-4	15-45	40-70	10-27	1.10-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.32	.32	4	6	48
	4-35	10-35	50-70	18-35	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-66	10-45	40-70	18-35	1.30-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
Mn:														
Melvin-----	0-12	10-35	50-80	10-17	1.20-1.60	0.6-2	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	12-36	5-25	55-80	12-35	1.30-1.60	0.6-2	0.18-0.23	0.0-2.9	0.5-2.0	.43	.43			
	36-60	10-40	40-75	7-40	1.40-1.70	0.6-2	0.16-0.23	0.0-2.9	0.2-1.0	.43	.43			
Newark-----	0-8	10-35	50-80	7-27	1.20-1.40	0.6-2	0.15-0.23	0.0-2.9	1.0-4.0	.43	.43	5	5	56
	8-39	5-25	50-80	18-35	1.20-1.45	0.6-2	0.18-0.23	0.0-2.9	0.5-2.0	.43	.43			
	39-60	5-25	50-80	12-40	1.30-1.50	0.6-2	0.15-0.22	0.0-2.9	0.0-1.0	.43	.43			
MoB:														
Morrison-----	0-1	55-85	10-35	5-20	1.20-1.40	0.6-6	0.12-0.16	0.0-2.9	1.0-4.0	.17	.20	5	6	48
	1-65	40-70	5-35	15-40	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
MoC:														
Morrison-----	0-1	55-85	10-35	5-20	1.20-1.40	0.6-6	0.12-0.16	0.0-2.9	1.0-4.0	.17	.20	5	6	48
	1-65	40-70	5-35	15-40	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MuA:														
Murrill-----	0-8	10-40	50-75	10-20	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	8-52	10-40	35-70	18-35	1.40-1.70	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.24	.28			
	52-72	5-40	35-70	20-55	1.40-1.70	0.2-2	0.08-0.12	3.0-5.9	0.0-0.5	.28	.32			
MuB:														
Murrill-----	0-8	10-40	50-75	10-20	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	8-52	10-40	35-70	18-35	1.40-1.70	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.24	.28			
	52-72	5-40	35-70	20-55	1.40-1.70	0.2-2	0.08-0.12	3.0-5.9	0.0-0.5	.28	.32			
MuC:														
Murrill-----	0-8	10-40	50-75	10-20	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	8-52	10-40	35-70	18-35	1.40-1.70	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.24	.28			
	52-72	5-40	35-70	20-55	1.40-1.70	0.2-2	0.08-0.12	3.0-5.9	0.0-0.5	.28	.32			
MuD:														
Murrill-----	0-8	10-40	50-75	10-20	1.20-1.50	0.6-2	0.12-0.16	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	8-52	10-40	35-70	18-35	1.40-1.70	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.24	.28			
	52-72	5-40	35-70	20-55	1.40-1.70	0.2-2	0.08-0.12	3.0-5.9	0.0-0.5	.28	.32			
NoA:														
Nolo-----	0-5	10-35	50-75	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	3	5	56
	5-19	10-40	40-75	15-30	1.30-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.32	.32			
	19-44	30-50	30-50	15-30	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
	44-54	---	---	---	---	0.2-2	---	---	---	---	---			
NsA:														
Nolo-----	0-5	10-35	50-75	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	3	8	0
	5-19	10-40	40-75	15-30	1.30-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.32	.32			
	19-44	30-50	30-50	15-30	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.17	.20			
	44-54	---	---	---	---	0.2-2	---	---	---	---	---			
OeE:														
Opequon-----	0-7	1-20	40-70	27-45	1.20-1.50	0.2-2	0.16-0.21	6.0-8.9	1.0-4.0	.32	.32	1	6	48
	7-14	10-40	20-50	27-50	1.40-1.70	0.2-2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.17			
	14-24	---	---	---	---	2-6	---	---	---	---	---			
OhD:														
Opequon-----	0-7	1-20	40-70	27-45	1.20-1.50	0.2-2	0.16-0.21	6.0-8.9	1.0-4.0	.32	.32	1	6	48
	7-14	10-40	20-50	27-50	1.40-1.70	0.2-2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.17			
	14-24	---	---	---	---	2-6	---	---	---	---	---			
Hagerstown														
Hagerstown-----	0-9	1-20	50-70	20-40	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	3	6	48
	9-14	1-20	35-65	25-60	1.30-1.50	0.6-2	0.15-0.22	3.0-5.9	0.0-0.5	.28	.28			
	14-44	1-24	25-55	35-60	1.35-1.60	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.28	.28			
	44-54	---	---	---	---	0.00-0.01	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
OsD:														
Opequon-----	0-7	1-20	40-70	27-45	1.20-1.50	0.2-2	0.16-0.21	6.0-8.9	1.0-4.0	.32	.32	1	6	48
	7-14	10-40	20-50	27-50	1.40-1.70	0.2-2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.17			
	14-24	---	---	---	---	2-6	---	---	---	---	---			
Hagerstown-----	0-9	1-20	50-70	20-40	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	3	6	48
	9-14	1-20	35-65	25-60	1.30-1.50	0.6-2	0.15-0.22	3.0-5.9	0.0-0.5	.28	.28			
	14-44	1-24	25-55	35-60	1.35-1.60	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.28	.28			
	44-54	---	---	---	---	0.00-0.01	---	---	---	---	---			
PaE:														
Pennval-----	0-5	---	---	15-25	1.20-1.50	0.2-2	0.13-0.18	0.0-2.0	1.0-3.0	.28	.37	5	5	56
	5-29	---	---	20-34	1.20-1.50	0.2-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.15	.24			
	29-73	---	---	18-32	1.20-1.50	0.2-0.6	0.08-0.11	0.0-2.9	0.0-0.5	.28	.32			
	73-88	---	---	18-40	1.30-1.50	0.2-2	0.04-0.10	---	0.0-0.2	.02	---			
Pb:														
Philo-----	0-10	15-40	50-80	10-20	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	10-40	15-65	30-70	10-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32			
	40-65	15-65	20-70	5-20	1.20-1.40	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.24	.28			
Pc:														
Philo-----	0-10	15-40	50-80	10-20	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	10-40	15-65	30-70	10-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32			
	40-65	15-65	20-70	5-20	1.20-1.40	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.24	.28			
Linden-----	0-12	15-40	50-80	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	1.0-4.0	.37	.37	3	5	56
	12-48	20-65	30-70	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	48-70	40-70	20-50	5-25	1.20-1.40	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.20			
Ps:														
Pits-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pt:														
Potomac-----	0-4	---	---	3-8	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.0-2.0	.20	.24	3	3	86
	4-65	---	---	2-8	1.30-1.60	6-20	0.03-0.06	0.0-2.9	0.0-0.1	.17	.24			
Pu:														
Purdy-----	0-7	10-35	50-80	10-27	1.30-1.50	0.2-0.6	0.18-0.24	3.0-5.9	2.0-4.0	.43	.43	5	8	0
	7-44	10-40	30-70	27-50	1.30-1.60	0.00-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.32	.32			
	44-60	10-30	30-70	27-50	1.30-1.60	0.00-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.32	.32			
Qu:														
Quarry-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
RaF: Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Rb: Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TaA: Tilsit-----	0-7	10-40	50-80	10-25	1.20-1.55	0.6-2	0.16-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	7-19	5-30	45-80	18-40	1.30-1.55	0.6-2	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	19-65	5-30	45-80	18-40	1.40-1.65	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.1	.43	.43			
TaB: Tilsit-----	0-7	10-40	50-80	10-25	1.20-1.55	0.6-2	0.16-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	7-19	5-30	45-80	18-40	1.30-1.55	0.6-2	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	19-65	5-30	45-80	18-40	1.40-1.65	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.1	.43	.43			
TaC: Tilsit-----	0-7	10-40	50-80	10-25	1.20-1.55	0.6-2	0.16-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	7-19	5-30	45-80	18-40	1.30-1.55	0.6-2	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	19-65	5-30	45-80	18-40	1.40-1.65	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.1	.43	.43			
TmA: Timberville-----	0-12	10-40	50-80	6-25	1.30-1.50	2-6	0.11-0.20	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	12-32	10-35	30-75	18-40	1.30-1.50	0.6-2	0.11-0.19	0.0-2.9	0.5-1.0	.24	.28			
	32-65	10-35	30-75	27-50	1.40-1.55	0.6-2	0.10-0.18	3.0-5.9	0.0-0.5	.24	.28			
TmB: Timberville-----	0-12	10-40	50-80	6-25	1.30-1.50	2-6	0.11-0.20	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	12-32	10-35	30-75	18-40	1.30-1.50	0.6-2	0.11-0.19	0.0-2.9	0.5-1.0	.24	.28			
	32-65	10-35	30-75	27-50	1.40-1.55	0.6-2	0.10-0.18	3.0-5.9	0.0-0.5	.24	.28			
UnB: Ungers-----	0-9	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.28	.32	5	5	56
	9-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			
UnC: Ungers-----	0-9	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.28	.32	5	5	56
	9-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
UoB: Ungers-----	0-6	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.24	.32	5	8	0
	6-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			
UoC: Ungers-----	0-6	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.24	.32	5	8	0
	6-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			
UoE: Ungers-----	0-6	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.24	.32	5	8	0
	6-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			
UpF: Ungers-----	0-6	35-65	25-50	10-20	1.20-1.40	0.6-2	0.10-0.18	0.0-2.9	2.0-3.0	.24	.32	5	8	0
	6-33	30-60	15-45	17-35	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	33-48	30-65	15-45	17-35	1.30-1.50	0.6-2	0.06-0.12	0.0-2.9	0.0-0.5	.17	.24			
	48-58	---	---	---	---	0.2-2	---	---	---	---	---			
Meckesville-----	0-4	15-45	40-70	10-27	1.10-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-4.0	.32	.32	4	8	0
	4-35	10-35	50-70	18-35	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-66	10-45	40-70	18-35	1.30-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
UrC: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Berks-----	0-6	10-40	50-80	5-23	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	2.0-4.0	.17	.32	3	6	48
	6-26	10-40	40-75	5-33	1.20-1.60	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	26-36	---	---	---	---	0.2-20	0.00-0.00	---	---	---	---			
UsB: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Comly-----	0-9	10-40	50-75	5-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-23	10-40	50-75	5-35	1.60-1.80	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.28	.32			
	23-48	10-40	40-70	5-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	48-65	15-45	30-70	5-27	---	0.06-2	---	0.0-2.9	0.0-0.1	.28	.37			
	65-75	---	---	---	---	0.00-0.06	---	---	---	---	---			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
UsC: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Comly-----	0-9	10-40	50-75	5-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-23	10-40	50-75	5-35	1.60-1.80	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.28	.32			
	23-48	10-40	40-70	5-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	48-65	15-45	30-70	5-27	---	0.06-2	---	0.0-2.9	0.0-0.1	.28	.37			
	65-75	---	---	---	---	0.00-0.06	---	---	---	---	---			
Ut: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Linden-----	0-12	15-40	50-80	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	1.0-4.0	.37	.37	3	5	56
	12-48	20-65	30-70	10-20	1.20-1.40	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	48-70	40-70	20-50	5-25	1.20-1.40	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.20			
WaA: Watson-----	0-9	10-35	50-80	12-27	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	1.0-3.0	.37	.37	3	5	56
	9-24	10-40	30-75	17-35	1.40-1.60	0.6-2	0.12-0.16	3.0-5.9	0.0-0.5	.17	.20			
	24-65	10-40	40-75	15-33	1.60-1.80	0.06-0.2	0.08-0.12	3.0-5.9	0.0-0.1	.17	.20			
WbB: Wharton-----	0-4	10-35	45-75	1-26	1.10-1.30	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.37	.37	4	5	56
	4-20	5-25	45-75	5-35	1.20-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
	20-45	5-25	45-75	5-35	1.20-1.60	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.17	.24			
	45-65	15-50	35-70	5-30	---	0.06-2	---	3.0-5.9	0.0-0.1	.17	.28			
WbC: Wharton-----	0-4	10-35	45-75	1-26	1.10-1.30	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.37	.37	4	5	56
	4-20	5-25	45-75	5-35	1.20-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
	20-45	5-25	45-75	5-35	1.20-1.60	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.17	.24			
	45-65	15-50	35-70	5-30	---	0.06-2	---	3.0-5.9	0.0-0.1	.17	.28			
WeB: Wharton-----	0-4	10-35	45-75	1-26	1.10-1.30	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.37	.37	4	8	0
	4-20	5-25	45-75	5-35	1.20-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
	20-45	5-25	45-75	5-35	1.20-1.60	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.17	.24			
	45-65	15-50	35-70	5-30	---	0.06-2	---	3.0-5.9	0.0-0.1	.17	.28			
WgB: Wharton-----	0-4	10-35	45-75	1-26	1.10-1.30	0.6-2	0.16-0.20	0.0-2.9	1.0-4.0	.37	.37	4	8	0
	4-20	5-25	45-75	5-35	1.20-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
	20-45	5-25	45-75	5-35	1.20-1.60	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.17	.24			
	45-65	15-50	35-70	5-30	---	0.06-2	---	3.0-5.9	0.0-0.1	.17	.28			

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

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K _{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
WgB:														
Cookport-----	0-2	30-60	20-50	5-27	1.20-1.40	0.6-2	0.10-0.16	0.0-2.9	1.0-4.0	.24	.24	3	5	56
	2-46	25-55	25-60	6-35	1.20-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.15	.17			
	46-54	28-70	10-60	6-30	1.20-1.40	0.6-2	0.04-0.08	0.0-2.9	0.0-0.1	.15	.20			
	54-64	---	---	---	---	2-6	0.04-0.08	---	---	---	---			
WhA:														
Wheeling-----	0-9	10-30	50-80	12-25	1.20-1.40	0.6-6	0.12-0.18	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	9-47	10-40	40-70	18-30	1.30-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.32			
	47-65	40-95	5-35	5-15	1.30-1.50	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.20	.28			
WyA:														
Wyoming-----	0-7	30-55	30-50	8-27	1.10-1.40	6-20	0.06-0.14	0.0-2.9	2.0-4.0	.17	.20	5	6	48
	7-44	55-80	10-40	5-15	1.10-1.50	6-20	0.06-0.09	0.0-2.9	0.0-0.5	.17	.24			
	44-65	65-99	5-30	1-11	1.30-1.60	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24			
WyB:														
Wyoming-----	0-7	30-55	30-50	8-27	1.10-1.40	6-20	0.06-0.14	0.0-2.9	2.0-4.0	.17	.20	3	5	56
	7-44	55-80	10-40	5-15	1.10-1.50	6-20	0.06-0.09	0.0-2.9	0.0-0.5	.17	.24			
	44-65	65-99	5-30	1-11	1.30-1.60	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24			
ZoA:														
Zoar-----	0-12	10-40	50-80	15-30	1.20-1.40	0.6-2	0.15-0.18	0.0-2.9	1.0-4.0	.43	.43	3	5	56
	12-46	5-20	40-65	30-40	1.30-1.60	0.06-0.6	0.12-0.15	3.0-5.9	0.0-0.5	.32	.32			
	46-65	10-40	30-65	30-50	1.40-1.70	0.06-0.2	0.08-0.12	3.0-5.9	0.0-0.5	.32	.32			

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils

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

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
AeB:				
Aeric Epiaquents-----	0-32	10-14	---	4.0-7.3
	32-65	10-13	---	4.5-7.3
AfD:				
Allegheny-----	0-6	6.0-16	3.8-8.4	4.5-5.5
	6-35	---	2.0-7.0	4.5-5.5
	35-65	---	2.0-4.0	4.5-5.5
AgB:				
Allenwood-----	0-11	10-20	2.8-8.0	5.1-7.3
	11-44	6.9-14	5.0-8.4	5.1-7.3
	44-65	5.0-14	7.0-12	5.1-7.3
AgC:				
Allenwood-----	0-11	10-20	2.8-8.0	5.1-7.3
	11-44	6.9-14	5.0-8.4	5.1-7.3
	44-65	5.0-14	7.0-12	5.1-7.3
AgD:				
Allenwood-----	0-11	10-20	2.8-8.0	5.1-7.3
	11-44	6.9-14	5.0-8.4	5.1-7.3
	44-65	5.0-14	7.0-12	5.1-7.3
At:				
Atkins-----	0-16	10-20	5.1-9.0	4.5-5.5
	16-45	5.0-9.0	3.6-7.0	4.5-5.5
	45-70	4.0-10	2.0-7.0	4.5-5.5
Ba:				
Barbour-----	0-6	10-25	2.0-7.4	4.5-6.5
	6-20	6.0-20	1.2-5.1	4.5-5.5
	20-65	4.0-10	---	4.5-5.5
Bb:				
Barbour-----	0-6	10-25	2.0-7.4	4.5-6.5
	6-20	6.0-20	1.2-5.1	4.5-5.5
	20-65	4.0-10	---	4.5-5.5
Craigsville-----	0-5	4.0-14	1.8-6.8	4.5-6.0
	5-32	3.0-12	1.4-3.8	4.5-5.5
	32-65	3.0-6.0	1.4-2.8	4.5-5.5
Bc:				
Basher-----	0-10	10-25	2.0-7.4	3.5-6.5
	10-33	4.0-20	1.2-5.9	3.5-6.0
	33-50	4.0-20	---	4.5-6.5
	50-65	2.0-12	---	4.5-6.5
BeB:				
Berks-----	0-6	5.0-15	2.5-7.6	3.5-6.5
	6-26	5.0-15	1.0-4.4	3.5-5.5
	26-36	5.0-15	0.1-0.2	3.5-5.5
BeC:				
Berks-----	0-6	5.0-15	2.5-7.6	3.5-6.5
	6-26	5.0-15	1.0-4.4	3.5-5.5
	26-36	5.0-15	0.1-0.2	3.5-5.5

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
BeD:				
Berks-----	0-6	5.0-15	2.5-7.6	3.5-6.5
	6-26	5.0-15	1.0-4.4	3.5-5.5
	26-36	5.0-15	0.1-0.2	3.5-5.5
Weikert-----	0-6	6.0-20	3.8-8.4	4.5-6.0
	6-15	6.0-15	3.0-5.8	4.5-6.0
	15-25	5.0-15	0.1-0.2	---
BeE:				
Berks-----	0-5	5.0-15	2.5-7.6	3.5-6.5
	5-23	5.0-15	1.0-4.4	3.5-5.5
	23-36	5.0-15	0.1-0.2	3.5-5.5
Weikert-----	0-4	6.0-20	3.8-8.4	4.5-6.0
	4-15	6.0-15	3.0-5.8	4.5-6.0
	15-25	5.0-15	0.1-0.2	---
BgA:				
Brinkerton-----	0-4	18-26	3.8-9.0	4.5-6.0
	4-30	14-24	3.0-7.4	4.5-6.0
	30-65	12-22	---	4.5-6.0
BhB:				
Buchanan-----	0-7	10-20	2.8-7.7	4.0-6.0
	7-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
BhD:				
Buchanan-----	0-7	10-20	2.8-7.7	4.0-6.0
	7-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
BmB:				
Buchanan-----	0-3	10-20	2.8-7.7	4.0-6.0
	3-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
BmC:				
Buchanan-----	0-3	10-20	2.8-7.7	4.0-6.0
	3-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
BuB:				
Buchanan-----	0-7	10-20	2.8-7.7	4.0-6.0
	7-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
Andover-----	0-10	10-20	2.8-7.7	3.5-5.5
	10-22	5.0-15	3.6-6.4	3.5-5.5
	22-55	5.0-15	3.6-9.1	3.5-5.5
	55-65	6.0-18	3.6-8.4	4.5-5.5
BuC:				
Buchanan-----	0-7	10-20	2.8-7.7	4.0-6.0
	7-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
Andover-----	0-10	10-20	2.8-7.7	3.5-5.5
	10-22	5.0-15	3.6-6.4	3.5-5.5
	22-55	5.0-15	3.6-9.1	3.5-5.5
	55-65	6.0-18	3.6-8.4	4.5-5.5

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
BxB:				
Buchanan-----	0-3	10-20	2.8-7.7	4.0-6.0
	3-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
Andover-----	0-8	10-20	2.8-7.7	3.5-5.5
	8-22	5.0-15	3.6-6.4	3.5-5.5
	22-55	5.0-15	3.6-9.1	3.5-5.5
	55-65	6.0-18	3.6-8.4	4.5-5.5
BxC:				
Buchanan-----	0-3	10-20	2.8-7.7	4.0-6.0
	3-21	5.0-15	3.6-6.4	3.5-5.5
	21-65	5.0-15	3.6-9.1	3.5-5.5
Andover-----	0-8	10-20	2.8-7.7	3.5-5.5
	8-22	5.0-15	3.6-6.4	3.5-5.5
	22-55	5.0-15	3.6-9.1	3.5-5.5
	55-65	6.0-18	3.6-8.4	4.5-5.5
CaB:				
Calvin-----	0-1	12-22	8.7-11	4.5-6.5
	1-3	7.0-15	7.4-11	4.5-5.5
	3-30	7.0-15	7.7-11	4.5-5.5
	30-40	---	---	---
CaC:				
Calvin-----	0-1	12-22	5.5-11	4.5-6.5
	1-3	7.0-15	7.4-11	4.5-5.5
	3-30	7.0-15	7.7-11	4.5-5.5
	30-40	---	---	---
CbC:				
Cedarcreek-----	0-24	5.0-10	1.6-6.2	3.6-5.5
	24-70	5.0-10	1.2-10	3.6-5.5
CbD:				
Cedarcreek-----	0-24	5.0-10	1.6-6.2	3.6-5.5
	24-70	5.0-10	1.2-10	3.6-5.5
CbE:				
Cedarcreek-----	0-24	5.0-10	1.6-6.2	3.6-5.5
	24-70	5.0-10	1.2-10	3.6-5.5
CcA:				
Chenango-----	0-8	12-28	2.7-8.1	5.1-6.5
	8-27	3.0-15	1.2-4.4	5.1-6.5
	27-65	3.0-12	---	5.1-6.5
CcB:				
Chenango-----	0-8	12-28	2.7-8.1	5.1-6.5
	8-27	3.0-15	1.2-4.4	5.1-6.5
	27-65	3.0-12	---	5.1-6.5
CdB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
CdB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
CeA:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
CeB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
CeC:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
CfB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
CgB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
Cookport-----	0-8	---	2.0-5.4	3.5-5.5
	8-22	---	3.6-7.0	3.5-5.5
	22-46	---	3.6-7.0	3.5-5.5
	46-54	---	2.0-5.4	3.5-5.5
	54-64	---	0.1-0.2	---
ChB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
CmA:				
Comly-----	0-9	10-20	3.2-7.3	5.1-6.5
	9-23	5.0-15	---	5.1-6.5
	23-48	5.0-15	5.0-7.4	5.1-6.5
	48-65	---	0.1-0.2	5.1-6.0
	65-75	---	---	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
CmB:				
Comly-----	0-9	10-20	3.2-7.3	5.1-6.5
	9-23	5.0-15	---	5.1-6.5
	23-48	5.0-15	5.0-7.4	5.1-6.5
	48-65	---	0.1-0.2	5.1-6.0
	65-75	---	---	---
CmC:				
Comly-----	0-9	10-20	3.2-7.3	5.1-6.5
	9-23	5.0-15	---	5.1-6.5
	23-48	5.0-15	5.0-7.4	5.1-6.5
	48-65	---	0.1-0.2	5.1-6.0
	65-75	---	---	---
CnB:				
Cookport-----	0-10	---	2.8-8.4	4.5-5.5
	10-24	---	3.6-7.0	3.6-5.5
	24-40	---	3.6-7.0	3.6-5.5
	40-60	---	2.0-5.4	3.6-5.5
	60-64	---	---	---
CoA:				
Cookport-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-24	3.0-12	3.6-6.0	3.5-5.5
	24-46	---	3.6-7.0	3.6-5.5
	46-54	3.0-9.0	3.0-5.4	3.5-5.5
	54-64	---	0.1-0.2	---
CoB:				
Cookport-----	0-6	10-20	2.8-8.4	4.5-5.5
	6-22	5.0-18	3.6-7.0	3.6-5.5
	22-39	5.0-15	3.6-7.0	3.6-5.5
	39-48	5.0-15	2.0-5.4	3.6-5.5
	48-52	---	---	---
CpB:				
Cookport-----	0-8	10-20	2.0-5.4	4.5-5.5
	8-23	5.0-18	3.6-7.0	3.6-5.5
	23-40	5.0-15	3.6-7.0	3.6-5.5
	40-46	5.0-15	2.0-5.4	3.6-5.5
	46-50	---	---	---
CpD:				
Cookport-----	0-8	10-20	2.0-5.4	4.5-5.5
	8-23	5.0-18	3.6-7.0	3.6-5.5
	23-40	5.0-15	3.6-7.0	3.6-5.5
	40-46	5.0-15	2.0-5.4	3.6-5.5
	46-50	---	---	---
Cr:				
Craigsville-----	0-5	4.0-14	1.8-6.8	4.5-6.0
	5-32	3.0-12	1.4-3.8	4.5-5.5
	32-65	3.0-6.0	1.4-2.8	4.5-5.5
Fr:				
Freetown-----	0-12	50-100	38-74	3.5-5.5
	12-65	50-100	0.1-0.2	3.5-5.5
GpB:				
Gilpin-----	0-3	10-14	3.4-8.4	3.5-6.0
	3-11	8.0-12	3.6-7.0	3.5-5.5
	11-29	8.0-12	3.0-7.0	3.5-5.5
	29-39	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
GpC:				
Gilpin-----	0-3	10-14	3.4-8.4	3.5-6.0
	3-11	8.0-12	3.6-7.0	3.5-5.5
	11-29	8.0-12	3.0-7.0	3.5-5.5
	29-39	---	0.1-0.2	---
GwD:				
Gilpin-----	0-3	10-14	3.4-8.4	3.5-6.0
	3-11	8.0-12	3.6-7.0	3.5-5.5
	11-29	8.0-12	3.0-7.0	3.5-5.5
	29-39	---	0.1-0.2	---
Wharton-----	0-4	11-25	3.8-8.0	3.5-5.5
	4-20	11-15	3.0-7.0	3.5-5.5
	20-45	11-15	4.0-9.0	3.5-5.5
	45-65	---	0.1-0.2	3.5-5.5
HeA:				
Hagerstown-----	0-9	15-30	---	5.1-6.5
	9-14	15-30	---	5.1-6.5
	14-44	15-30	---	5.1-6.5
	44-54	---	---	---
HeB:				
Hagerstown-----	0-9	15-30	---	5.1-6.5
	9-14	15-30	---	5.1-6.5
	14-44	15-30	---	5.1-6.5
	44-54	---	---	---
HeC:				
Hagerstown-----	0-9	15-30	---	5.1-6.5
	9-14	15-30	---	5.1-6.5
	14-44	15-30	---	5.1-6.5
	44-54	---	---	---
HfB:				
Hagerstown-----	0-9	15-30	---	5.1-6.5
	9-14	15-30	---	5.1-6.5
	14-44	15-30	---	5.1-6.5
	44-54	---	---	---
HgC:				
Hagerstown-----	0-6	15-30	---	5.1-6.5
	6-18	15-30	---	5.1-6.5
	18-42	15-30	---	5.1-6.5
	42-52	---	---	---
Opequon-----	0-7	14-22	---	5.1-6.5
	7-14	14-26	---	5.1-6.5
	14-24	---	0.1-0.2	---
HhA:				
Hartleton-----	0-8	10-22	2.8-7.3	4.5-6.0
	8-34	8.0-14	3.0-6.4	4.5-5.5
	34-48	8.0-14	3.0-5.8	4.5-5.5
	48-58	---	0.1-0.2	---
HhB:				
Hartleton-----	0-8	10-22	2.8-7.3	4.5-6.0
	8-34	8.0-14	3.0-6.4	4.5-5.5
	34-48	8.0-14	3.0-5.8	4.5-5.5
	48-58	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
HhC:				
Hartleton-----	0-8	10-22	2.8-7.3	4.5-6.0
	8-34	8.0-14	3.0-6.4	4.5-5.5
	34-48	8.0-14	3.0-5.8	4.5-5.5
	48-58	---	0.1-0.2	---
HjC:				
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
HkE:				
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
HlB:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
HlC:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
HlD:				
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
HmB:				
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
HmD:				
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
Clymer-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-28	3.0-12	3.6-6.0	3.5-5.5
	28-50	3.0-9.0	3.0-5.4	3.5-5.5
	50-60	---	0.1-0.2	---
HoF:				
Hazleton-----	0-3	15-30	2.9-6.6	3.5-5.5
	3-42	5.0-15	1.4-4.0	3.5-5.5
	42-58	3.0-8.0	1.0-3.4	3.5-5.5
	58-68	---	0.1-0.2	---
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5
HuB:				
Hustontown-----	0-7	15-45	---	5.1-6.0
	7-24	15-30	3.6-7.4	5.1-6.0
	24-30	15-30	3.6-7.4	5.1-6.0
	30-65	15-25	---	5.1-6.0
HuC:				
Hustontown-----	0-7	15-45	---	5.1-6.0
	7-24	15-30	3.6-7.4	5.1-6.0
	24-30	15-30	3.6-7.4	5.1-6.0
	30-65	15-25	---	5.1-6.0
HuD:				
Hustontown-----	0-7	15-45	---	5.1-6.0
	7-24	15-30	3.6-7.4	5.1-6.0
	24-30	15-30	3.6-7.4	5.1-6.0
	30-65	15-25	---	5.1-6.0
KcD:				
Klinesville-----	0-3	10-22	2.4-6.5	4.5-6.0
	3-15	4.0-12	2.2-4.4	4.5-6.0
	15-17	4.0-12	2.0-4.2	4.5-6.0
	17-27	---	0.1-0.2	---
KcE:				
Klinesville-----	0-3	10-22	2.4-6.5	4.5-6.0
	3-15	4.0-12	2.2-4.4	4.5-6.0
	15-17	4.0-12	2.0-4.2	4.5-6.0
	17-27	---	0.1-0.2	---
KrA:				
Kreamer-----	0-8	12-16	---	5.1-6.5
	8-48	8.0-23	---	5.1-6.5
	48-65	10-14	6.6-10	5.1-6.5
LaB:				
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
LaC:				
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5
LaD:				
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5
LdB:				
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5
LdC:				
Laidig-----	0-3	8.0-20	2.9-8.4	3.5-5.5
	3-34	7.0-15	3.6-7.4	3.5-5.5
	34-65	5.0-15	3.6-7.4	3.5-5.5
LkB:				
Leck Kill-----	0-6	10-20	3.0-12	4.5-6.0
	6-39	7.0-15	3.0-5.0	4.5-6.0
	39-42	7.0-13	3.4-6.8	4.5-6.0
	42-52	---	0.1-0.2	---
LkC:				
Leck Kill-----	0-6	10-20	3.0-12	4.5-6.0
	6-39	7.0-15	3.0-5.0	4.5-6.0
	39-42	7.0-13	3.4-6.8	4.5-6.0
	42-52	---	0.1-0.2	---
LkD:				
Leck Kill-----	0-6	10-20	3.0-12	4.5-6.0
	6-39	7.0-15	3.0-5.0	4.5-6.0
	39-42	7.0-13	3.4-6.8	4.5-6.0
	42-52	---	0.1-0.2	---
LkE:				
Leck Kill-----	0-6	10-20	3.0-12	4.5-6.0
	6-39	7.0-15	3.0-5.0	4.5-6.0
	39-42	7.0-13	3.4-6.0	4.5-6.0
	42-52	---	0.1-0.2	---
LmD:				
Leck Kill-----	0-3	10-20	3.0-12	4.5-6.0
	3-39	7.0-15	3.0-5.0	4.5-6.0
	39-42	7.0-13	3.4-6.8	4.5-6.0
	42-52	---	0.1-0.2	---
LnB:				
Leetonia-----	0-2	5.0-18	1.0-3.5	3.5-5.0
	2-16	3.0-15	0.6-3.4	3.5-5.0
	16-36	1.0-3.0	0.6-2.4	3.5-5.0
	36-48	1.0-3.0	0.6-2.4	3.5-5.0
	48-58	---	0.1-0.2	---
LnC:				
Leetonia-----	0-2	5.0-18	1.0-3.5	3.5-5.0
	2-16	3.0-15	0.6-3.4	3.5-5.0
	16-36	1.0-3.0	0.6-2.4	3.5-5.0
	36-48	1.0-3.0	0.6-2.4	3.5-5.0
	48-58	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
Lo:				
Linden-----	0-12	12-26	2.8-6.6	5.0-6.0
	12-48	5.0-18	2.0-4.0	3.5-6.0
	48-70	5.0-18	1.4-5.8	3.5-6.0
Lr:				
Linden-----	0-12	12-26	2.8-6.6	5.0-6.0
	12-48	5.0-18	2.0-4.0	3.5-6.0
	48-70	5.0-18	1.4-5.8	3.5-6.0
MeB:				
Meckesville-----	0-4	11-22	2.8-8.4	4.0-6.0
	4-35	6.0-18	3.6-7.4	3.5-5.5
	35-66	6.0-18	3.6-7.4	3.5-5.5
MeC:				
Meckesville-----	0-4	11-22	2.8-8.4	4.0-6.0
	4-35	6.0-18	3.6-7.4	3.5-5.5
	35-66	6.0-18	3.6-7.4	3.5-5.5
MeD:				
Meckesville-----	0-4	11-22	2.8-8.4	4.0-6.0
	4-35	6.0-18	3.6-7.4	3.5-5.5
	35-66	6.0-18	3.6-7.4	3.5-5.5
MhD:				
Meckesville-----	0-4	11-22	2.8-8.4	4.0-6.0
	4-35	6.0-18	3.6-7.4	3.5-5.5
	35-66	6.0-18	3.6-7.4	3.5-5.5
Mn:				
Melvin-----	0-12	15-25	---	5.6-6.5
	12-36	15-20	---	5.6-6.5
	36-60	5.0-15	---	5.6-6.5
Newark-----	0-8	11-23	---	5.6-6.5
	8-39	9.0-17	---	5.6-6.5
	39-60	6.0-10	---	5.6-6.5
MoB:				
Morrison-----	0-1	5.0-20	1.8-7.0	5.1-6.0
	1-65	2.0-6.0	2.0-5.4	5.1-6.0
MoC:				
Morrison-----	0-1	5.0-20	1.8-7.0	5.1-6.0
	1-65	2.0-6.0	2.0-5.4	5.1-6.0
MuA:				
Murrill-----	0-8	8.0-20	2.8-7.0	4.5-6.0
	8-52	10-20	3.6-7.4	4.5-6.0
	52-72	10-20	5.4-11	4.5-6.0
MuB:				
Murrill-----	0-8	8.0-20	2.8-7.0	4.5-6.0
	8-52	10-20	3.6-7.4	4.5-6.0
	52-72	10-20	5.4-11	4.5-6.0
MuC:				
Murrill-----	0-8	8.0-20	2.8-7.0	4.5-6.0
	8-52	10-20	3.6-7.4	4.5-6.0
	52-72	10-20	5.4-11	4.5-6.0

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
MuD:				
Murrill-----	0-8	8.0-20	2.8-7.0	4.5-6.0
	8-52	10-20	3.6-7.4	4.5-6.0
	52-72	10-20	5.4-11	4.5-6.0
NoA:				
Nolo-----	0-5	15-25	2.8-6.3	3.5-5.5
	5-19	5.0-10	3.6-7.4	3.5-5.0
	19-44	5.0-10	3.6-7.4	3.5-5.0
	44-54	---	0.1-0.2	---
NsA:				
Nolo-----	0-5	15-25	2.8-6.3	3.5-5.5
	5-19	5.0-10	3.6-7.4	3.5-5.0
	19-44	5.0-10	3.6-7.4	3.5-5.0
	44-54	---	0.1-0.2	---
OeE:				
Opequon-----	0-7	14-22	---	5.1-6.5
	7-14	14-26	---	5.1-6.5
	14-24	---	0.1-0.2	---
OhD:				
Opequon-----	0-7	14-22	---	5.1-6.5
	7-14	14-26	---	5.1-6.5
	14-24	---	0.1-0.2	---
Hagerstown-----	0-9	11-21	---	5.1-6.5
	9-14	11-19	---	5.1-6.5
	14-44	12-20	---	5.1-6.5
	44-54	---	0.1-0.2	---
OsD:				
Opequon-----	0-7	14-22	---	5.1-6.5
	7-14	14-26	---	5.1-6.5
	14-24	---	0.1-0.2	---
Hagerstown-----	0-9	11-21	---	5.1-6.5
	9-14	11-19	---	5.1-6.5
	14-44	12-20	---	5.1-6.5
	44-54	---	0.1-0.2	---
PaE:				
Pennval-----	0-5	12-18	---	4.5-6.0
	5-29	12-15	---	4.5-6.0
	29-73	8.0-15	---	4.5-6.0
	73-88	4.0-11	---	4.5-6.0
Pb:				
Philo-----	0-10	8.0-20	3.5-6.6	4.5-6.5
	10-40	6.0-20	2.0-4.0	4.5-6.0
	40-65	4.0-10	1.0-4.0	4.5-6.0
Pc:				
Philo-----	0-10	8.0-20	3.5-6.6	4.5-6.5
	10-40	6.0-20	2.0-4.0	4.5-6.0
	40-65	4.0-10	1.0-4.0	4.5-6.0
Linden-----	0-12	12-26	2.8-6.6	5.0-6.0
	12-48	5.0-18	2.0-4.0	3.5-6.0
	48-70	5.0-18	1.4-5.8	3.5-6.0

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
Ps:				
Pits-----	---	---	---	---
Pt:				
Potomac-----	0-4	3.0-12	---	5.1-7.8
	4-65	1.0-10	---	5.1-7.8
Pu:				
Purdy-----	0-7	15-25	5.1-10	3.6-5.5
	7-44	15-25	7.0-10	3.6-5.5
	44-60	8.0-20	7.0-10	3.6-5.5
Qu:				
Quarry-----	---	---	---	---
RaF:				
Rock outcrop-----	---	---	---	---
Rubble land-----	---	---	---	---
Rb:				
Rubble land-----	---	---	---	---
TaA:				
Tilsit-----	0-7	11-15	2.8-7.3	3.6-5.5
	7-19	10-14	3.6-7.0	3.6-5.5
	19-65	10-16	3.6-7.0	3.6-5.5
TaB:				
Tilsit-----	0-7	11-15	2.8-7.3	3.6-5.5
	7-19	10-14	3.6-7.0	3.6-5.5
	19-65	10-16	3.6-7.0	3.6-5.5
TaC:				
Tilsit-----	0-7	11-15	2.8-7.3	3.6-5.5
	7-19	10-14	3.6-7.0	3.6-5.5
	19-65	10-16	3.6-7.0	3.6-5.5
TmA:				
Timberville-----	0-12	10-18	2.0-7.3	3.6-6.5
	12-32	10-14	3.0-7.8	3.6-6.5
	32-65	8.0-15	7.0-12	3.6-6.5
TmB:				
Timberville-----	0-12	10-18	2.0-7.3	3.6-6.5
	12-32	10-14	3.0-7.8	3.6-6.5
	32-65	8.0-15	7.0-12	3.6-6.5
UnB:				
Ungers-----	0-9	10-20	3.5-6.3	3.6-5.5
	9-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---
UnC:				
Ungers-----	0-9	10-20	3.5-6.3	3.6-5.5
	9-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
UoB:				
Ungers-----	0-6	10-20	3.5-6.3	3.6-5.5
	6-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---
UoC:				
Ungers-----	0-6	10-20	3.5-6.3	3.6-5.5
	6-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---
UoE:				
Ungers-----	0-6	10-20	3.5-6.3	3.6-5.5
	6-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---
UpF:				
Ungers-----	0-6	10-20	3.5-6.3	3.6-5.5
	6-33	8.0-15	3.4-5.8	3.6-5.5
	33-48	5.0-10	2.0-4.4	3.6-5.5
	48-58	---	0.1-0.2	---
Meckesville-----	0-4	11-22	2.8-8.4	4.0-6.0
	4-35	6.0-18	3.6-7.4	3.5-5.5
	35-66	6.0-18	3.6-7.4	3.5-5.5
UrC:				
Urban land-----	---	---	---	---
Berks-----	0-6	5.0-15	2.5-7.6	3.5-6.5
	6-26	5.0-15	1.0-4.4	3.5-5.5
	26-36	5.0-15	0.1-0.2	3.5-5.5
UsB:				
Urban land-----	---	---	---	---
Comly-----	0-9	10-20	3.2-7.3	5.1-6.5
	9-23	5.0-15	---	5.1-6.5
	23-48	5.0-15	5.0-7.4	5.1-6.5
	48-65	---	0.1-0.2	5.1-6.5
	65-75	---	---	---
UsC:				
Urban land-----	---	---	---	---
Comly-----	0-9	10-20	3.2-7.3	5.1-6.5
	9-23	5.0-15	---	5.1-6.5
	23-48	5.0-15	5.0-7.4	5.1-6.5
	48-65	---	0.1-0.2	5.1-6.5
	65-75	---	---	---
Ut:				
Urban land-----	---	---	---	---
Linden-----	0-12	12-26	2.8-6.6	5.0-6.0
	12-48	5.0-18	2.0-4.0	3.5-6.0
	48-70	5.0-18	1.4-5.8	3.5-6.0

Soil Survey of Clinton County, Pennsylvania

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
WaA:				
Watson-----	0-9	9.0-13	3.2-7.7	4.5-6.0
	9-24	7.0-11	3.4-7.0	4.5-5.5
	24-65	7.0-11	3.0-6.0	4.5-5.5
WbB:				
Wharton-----	0-4	11-25	3.8-8.0	3.5-5.5
	4-20	11-15	3.0-7.0	3.5-5.5
	20-45	11-15	4.0-9.0	3.5-5.5
	45-65	---	0.1-0.2	3.5-5.5
WbC:				
Wharton-----	0-4	11-25	3.8-8.0	3.5-5.5
	4-20	11-15	3.0-7.0	3.5-5.5
	20-45	11-15	4.0-9.0	3.5-5.5
	45-65	---	0.1-0.2	3.5-5.5
WeB:				
Wharton-----	0-4	11-25	3.8-8.0	3.5-5.5
	4-20	11-15	3.0-7.0	3.5-5.5
	20-45	11-15	4.0-9.0	3.5-5.5
	45-65	---	0.1-0.2	3.5-5.5
WgB:				
Wharton-----	0-4	11-25	3.8-8.0	3.5-5.5
	4-20	11-15	3.0-7.0	3.5-5.5
	20-45	11-15	4.0-9.0	3.5-5.5
	45-65	---	0.1-0.2	3.5-5.5
Cookport-----	0-2	5.0-20	3.8-8.4	5.0-6.5
	2-46	3.0-12	3.6-6.0	3.5-5.5
	46-54	3.0-9.0	3.0-5.4	3.5-5.5
	54-64	---	0.1-0.2	---
WhA:				
Wheeling-----	0-9	10-24	---	5.1-6.5
	9-47	6.0-12	---	5.1-6.0
	47-65	6.0-10	---	5.1-6.0
WyA:				
Wyoming-----	0-7	10-14	3.1-6.6	3.6-6.0
	7-44	5.0-10	1.0-3.4	3.6-6.0
	44-65	1.0-5.0	0.2-2.6	3.6-6.0
WyB:				
Wyoming-----	0-7	10-14	3.1-6.6	3.6-6.0
	7-44	5.0-10	1.0-3.4	3.6-6.0
	44-65	1.0-5.0	0.2-2.6	3.6-6.0
ZoA:				
Zoar-----	0-12	13-16	3.8-9.0	4.5-5.5
	12-46	10-16	7.0-10	4.5-5.5
	46-65	10-16	7.0-10	4.5-5.5

Table 20.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
AeB: Aeric Epiaquents-----	C	Very high	January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.0-2.0	>6.0	---	---	None	---	None
			May	1.0-2.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
AfD: Allegheny-----	B	Medium	All months	---	---	---	---	None	---	None
AgB: Allenwood-----	B	Medium	All months	---	---	---	---	None	---	None
AgC: Allenwood-----	B	Medium	All months	---	---	---	---	None	---	None
AgD: Allenwood-----	B	High	All months	---	---	---	---	None	---	None
At: Atkins-----	D	Very high	January	0.0-0.5	>6.0	---	---	None	Very brief	Occasional
			February	0.0-0.5	>6.0	---	---	None	Very brief	Occasional
			March	0.0-1.0	>6.0	---	---	None	Very brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Very brief	Occasional
			May	0.0-1.0	>6.0	---	---	None	Very brief	Occasional
			June	0.0-1.0	>6.0	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	0.0-1.0	>6.0	---	---	None	Very brief	Occasional
			December	0.0-1.0	>6.0	---	---	None	Very brief	Occasional

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Ba: Barbour-----	B	Low	January	3.0-6.0	>6.0	---	---	None	Brief	Occasional
			February	3.0-6.0	>6.0	---	---	None	Brief	Occasional
			March	3.0-6.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-6.0	>6.0	---	---	None	Brief	Occasional
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	Brief
Bb: Barbour-----	B	Low	January	3.0-6.0	>6.0	---	---	None	Brief	Rare
			February	3.0-6.0	>6.0	---	---	None	Brief	Rare
			March	3.0-6.0	>6.0	---	---	None	Brief	Rare
			April	3.0-6.0	>6.0	---	---	None	Brief	Rare
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	Brief
Craigsville-----	B	Negligible	All months	---	---	---	---	None	Brief	Rare
Bc: Basher-----	B	Low	January	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			February	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			March	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			April	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			May	1.5-2.5	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	Brief

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
BeB: Berks-----	C	Very low	All months	---	---	---	---	None	---	None
BeC: Berks-----	C	Very low	All months	---	---	---	---	None	---	None
BeD: Berks-----	C	Medium	All months	---	---	---	---	None	---	None
Weikert-----	B/D	High	All months	---	---	---	---	None	---	None
BeE: Berks-----	C	Medium	All months	---	---	---	---	None	---	None
Weikert-----	B/D	High	All months	---	---	---	---	None	---	None
BgA: Brinkerton-----	D	Very high	January	0.0-0.5	1.7-2.5	---	---	None	---	None
			February	0.0-0.5	1.7-2.5	---	---	None	---	None
			March	0.0-0.5	1.7-2.5	---	---	None	---	None
			April	0.0-0.5	1.7-2.5	---	---	None	---	None
			May	0.0-0.5	1.7-2.5	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	0.0-0.5	1.7-2.5	---	---	None	---	None
			November	0.0-0.5	1.7-2.5	---	---	None	---	None
			December	0.0-0.5	1.7-2.5	---	---	None	---	None
BhB: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
BhD: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None
BmB: Buchanan-----	C	Medium	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None
BmC: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
BuB: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None
Andover-----	D	Very high	January	0.0-0.5	1.5-2.1	---	---	None	---	None
			February	0.0-0.5	1.5-2.1	---	---	None	---	None
			March	0.0-0.5	1.5-2.1	---	---	None	---	None
			April	0.0-0.5	1.5-2.1	---	---	None	---	None
			May	0.0-0.5	1.5-2.1	---	---	None	---	None
			June	0.0-0.5	1.5-2.1	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	0.0-0.5	1.5-2.1	---	---	None	---	None
			November	0.0-0.5	1.5-2.1	---	---	None	---	None
			December	0.0-0.5	1.5-2.1	---	---	None	---	None
BuC: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
BuC: Andover-----	D	Very high	January	0.0-0.5	1.5-2.1	---	---	None	---	None
			February	0.0-0.5	1.5-2.1	---	---	None	---	None
			March	0.0-0.5	1.5-2.1	---	---	None	---	None
			April	0.0-0.5	1.5-2.1	---	---	None	---	None
			May	0.0-0.5	1.5-2.1	---	---	None	---	None
			June	0.0-0.5	1.5-2.1	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	0.0-0.5	1.5-2.1	---	---	None	---	None
			November	0.0-0.5	1.5-2.1	---	---	None	---	None
			December	0.0-0.5	1.5-2.1	---	---	None	---	None
BxB: Buchanan-----	C	Medium	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None
Andover-----	D	Very high	January	0.0-0.5	1.5-2.1	---	---	None	---	None
			February	0.0-0.5	1.5-2.1	---	---	None	---	None
			March	0.0-0.5	1.5-2.1	---	---	None	---	None
			April	0.0-0.5	1.5-2.1	---	---	None	---	None
			May	0.0-0.5	1.5-2.1	---	---	None	---	None
			June	0.0-0.5	1.5-2.1	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	0.0-0.5	1.5-2.1	---	---	None	---	None
			November	0.0-0.5	1.5-2.1	---	---	None	---	None
			December	0.0-0.5	1.5-2.1	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
BxC: Buchanan-----	C	High	January	1.2-2.5	1.7-3.0	---	---	None	---	None
			February	1.2-2.5	1.7-3.0	---	---	None	---	None
			March	1.2-2.5	1.7-3.0	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.7-3.0	---	---	None	---	None
			December	1.2-2.5	1.7-3.0	---	---	None	---	None
Andover-----	D	Very high	January	0.0-0.5	1.5-2.1	---	---	None	---	None
			February	0.0-0.5	1.5-2.1	---	---	None	---	None
			March	0.0-0.5	1.5-2.1	---	---	None	---	None
			April	0.0-0.5	1.5-2.1	---	---	None	---	None
			May	0.0-0.5	1.5-2.1	---	---	None	---	None
			June	0.0-0.5	1.5-2.1	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	0.0-0.5	1.5-2.1	---	---	None	---	None
			November	0.0-0.5	1.5-2.1	---	---	None	---	None
			December	0.0-0.5	1.5-2.1	---	---	None	---	None
CaB: Calvin-----	C	Very low	All months	---	---	---	---	None	---	None
CaC: Calvin-----	C	Low	All months	---	---	---	---	None	---	None
CbC: Cedarcreek-----	B/D	Low	January	2.0	>6.0	---	---	None	---	None
			February	2.0	>6.0	---	---	None	---	None
			March	2.0	>6.0	---	---	None	---	None
			April	2.0	>6.0	---	---	None	---	None
			May	2.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.0	>6.0	---	---	None	---	None
			December	2.0	>6.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CbD: Cedarcreek-----	B/D	Medium	January	2.0	>6.0	---	---	None	---	None
			February	2.0	>6.0	---	---	None	---	None
			March	2.0	>6.0	---	---	None	---	None
			April	2.0	>6.0	---	---	None	---	None
			May	2.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.0	>6.0	---	---	None	---	None
			December	2.0	>6.0	---	---	None	---	None
CbE: Cedarcreek-----	A	Medium	All months	---	---	---	---	None	---	None
CcA: Chenango-----	A	Very low	All months	---	---	---	---	None	---	None
CcB: Chenango-----	A	Low	All months	---	---	---	---	None	---	None
CdB: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
CdD: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
CeA: Clymer-----	B	Low	All months	---	---	---	---	None	---	None
CeB: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
CeC: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
CfB: Clymer-----	B	Low	All months	---	---	---	---	None	---	None
CgB: Clymer-----	B	Low	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CgB: Cookport-----	C	Medium	January	0.9-1.8	1.3-2.3	---	---	None	---	None
			February	0.9-1.8	1.3-2.3	---	---	None	---	None
			March	0.9-1.8	1.3-2.3	---	---	None	---	None
			April	0.9-1.8	1.3-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.9-1.8	1.3-2.3	---	---	None	---	None
ChB: Clymer-----	B	Low	All months	---	---	---	---	None	---	None
Hazleton-----	B	Very low	All months	---	---	---	---	None	---	None
CmA: Comly-----	C	Medium	January	1.2-2.4	1.7-2.9	---	---	None	---	None
			February	1.2-2.4	1.7-2.9	---	---	None	---	None
			March	1.2-2.4	1.7-2.9	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-2.9	---	---	None	---	None
			December	1.2-2.4	1.7-2.9	---	---	None	---	None
CmB: Comly-----	C	Medium	January	1.2-2.4	1.7-2.9	---	---	None	---	None
			February	1.2-2.4	1.7-2.9	---	---	None	---	None
			March	1.2-2.4	1.7-2.9	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-2.9	---	---	None	---	None
			December	1.2-2.4	1.7-2.9	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CmC: Comly-----	C	Medium	January	1.2-2.4	1.7-2.9	---	---	None	---	None
			February	1.2-2.4	1.7-2.9	---	---	None	---	None
			March	1.2-2.4	1.7-2.9	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-2.9	---	---	None	---	None
			December	1.2-2.4	1.7-2.9	---	---	None	---	None
CnB: Cookport-----	C	Low	January	1.3-2.1	1.5-3.5	---	---	None	---	None
			February	1.3-2.1	1.5-3.5	---	---	None	---	None
			March	1.3-2.1	1.5-3.5	---	---	None	---	None
			April	1.3-2.1	1.5-3.5	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.3-2.1	1.5-3.5	---	---	None	---	None
CoA: Cookport-----	C	Medium	January	0.9-1.8	1.3-2.3	---	---	None	---	None
			February	0.9-1.8	1.3-2.3	---	---	None	---	None
			March	0.9-1.8	1.3-2.3	---	---	None	---	None
			April	0.9-1.8	1.3-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.9-1.8	1.3-2.3	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CoB: Cookport-----	C	High	January	0.9-1.8	1.3-2.3	---	---	None	---	None
			February	0.9-1.8	1.3-2.3	---	---	None	---	None
			March	0.9-1.8	1.3-2.3	---	---	None	---	None
			April	0.9-1.8	1.3-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.9-1.8	1.3-2.3	---	---	None	---	None
CpB: Cookport-----	C	Medium	January	1.2-1.8	1.7-2.7	---	---	None	---	None
			February	1.2-1.8	1.7-2.7	---	---	None	---	None
			March	1.2-1.8	1.7-2.7	---	---	None	---	None
			April	1.2-1.8	1.7-2.7	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.2-1.8	1.7-2.7	---	---	None	---	None
CpD: Cookport-----	C	Medium	January	1.2-1.8	1.7-2.7	---	---	None	---	None
			February	1.2-1.8	1.7-2.7	---	---	None	---	None
			March	1.2-1.8	1.7-2.7	---	---	None	---	None
			April	1.2-1.8	1.7-2.7	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.2-1.8	1.7-2.7	---	---	None	---	None
Cr: Craigsville-----	B	Negligible	All months	---	---	---	---	None	Brief	Rare

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Fr: Freetown-----	D	Negligible	January	0.0	>6.0	0.0-0.7	Long	Frequent	---	None
			February	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			March	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			April	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			May	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			June	0.0-1.0	>6.0	0.0-0.3	Long	Frequent	---	None
			July	0.0-1.0	>6.0	0.0-0.3	Brief	Occasional	---	None
			August	0.0-1.0	>6.0	0.0-0.3	Brief	Occasional	---	None
			September	0.0-1.0	>6.0	0.0-0.3	Brief	Occasional	---	None
			October	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			November	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
			December	0.0-1.0	>6.0	0.0-0.7	Long	Frequent	---	None
GpB: Gilpin-----	C	Low	All months	---	---	---	---	None	---	None
GpC: Gilpin-----	C	Medium	All months	---	---	---	---	None	---	None
GwD: Gilpin-----	C	High	All months	---	---	---	---	None	---	None
Wharton-----	C	Very high	January	1.2-2.5	1.3-2.5	---	---	None	---	None
			February	1.5-3.0	1.3-3.1	---	---	None	---	None
			March	1.5-3.0	1.3-3.1	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.5-3.0	1.6-3.1	---	---	None	---	None
			December	1.5-3.0	1.6-3.1	---	---	None	---	None
HeA: Hagerstown-----	B	Low	All months	---	---	---	---	None	---	None
HeB: Hagerstown-----	B	Medium	All months	---	---	---	---	None	---	None
HeC: Hagerstown-----	B	Medium	All months	---	---	---	---	None	---	None

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Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
HfB: Hagerstown-----	B	Medium	All months	---	---	---	---	None	---	None
HgC: Hagerstown-----	B	Medium	All months	---	---	---	---	None	---	None
Opequon-----	C	Medium	All months	---	---	---	---	None	---	None
HhA: Hartleton-----	B	Very low	All months	---	---	---	---	None	---	None
HhB: Hartleton-----	B	Low	All months	---	---	---	---	None	---	None
HhC: Hartleton-----	B	Low	All months	---	---	---	---	None	---	None
HjC: Hazleton-----	B	Low	All months	---	---	---	---	None	---	None
HkE: Hazleton-----	B	Medium	All months	---	---	---	---	None	---	None
HlB: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
Hazleton-----	B	Low	All months	---	---	---	---	None	---	None
HlC: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
Hazleton-----	B	Low	All months	---	---	---	---	None	---	None
HlD: Clymer-----	B	High	All months	---	---	---	---	None	---	None
Hazleton-----	B	Medium	All months	---	---	---	---	None	---	None
HmB: Hazleton-----	B	Very low	All months	---	---	---	---	None	---	None
Clymer-----	B	Low	All months	---	---	---	---	None	---	None
HmD: Hazleton-----	B	Low	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
HmD: Clymer-----	B	Medium	All months	---	---	---	---	None	---	None
HoF: Hazleton-----	B	Medium	All months	---	---	---	---	None	---	None
Laidig-----	C	High	January	2.2-3.9	2.5-4.2	---	---	None	---	None
			February	2.2-3.9	2.5-4.2	---	---	None	---	None
			March	2.2-3.9	2.5-4.2	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
HuB: Hustontown-----	C	Medium	January	1.0-2.2	1.5-2.7	---	---	None	---	None
			February	1.0-2.2	1.5-2.7	---	---	None	---	None
			March	1.0-2.2	1.5-2.7	---	---	None	---	None
			April	1.0-2.2	1.5-2.7	---	---	None	---	None
			May	1.0-2.2	1.5-2.7	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-2.2	1.5-2.7	---	---	None	---	None
			December	1.0-2.2	1.5-2.7	---	---	None	---	None
HuC: Hustontown-----	C	Medium	January	1.0-2.2	1.5-2.7	---	---	None	---	None
			February	1.0-2.2	1.5-2.7	---	---	None	---	None
			March	1.0-2.2	1.5-2.7	---	---	None	---	None
			April	1.0-2.2	1.5-2.7	---	---	None	---	None
			May	1.0-2.2	1.5-2.7	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-2.2	1.5-2.7	---	---	None	---	None
			December	1.0-2.2	1.5-2.7	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
HuD: Hustontown-----	C	High	January	1.0-2.2	1.5-2.7	---	---	None	---	None
			February	1.0-2.2	1.5-2.7	---	---	None	---	None
			March	1.0-2.2	1.5-2.7	---	---	None	---	None
			April	1.0-2.2	1.5-2.7	---	---	None	---	None
			May	1.0-2.2	1.5-2.7	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-2.2	1.5-2.7	---	---	None	---	None
			December	1.0-2.2	1.5-2.7	---	---	None	---	None
KcD: Klinesville-----	C	High	All months	---	---	---	---	None	---	None
KcE: Klinesville-----	C	High	All months	---	---	---	---	None	---	None
KrA: Kreamer-----	C	High	January	1.2-2.0	1.3-2.1	---	---	None	---	None
			February	1.2-2.0	1.3-2.0	---	---	None	---	None
			March	1.2-2.0	1.3-2.0	---	---	None	---	None
			April	1.2-2.0	1.3-2.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.0	1.3-2.0	---	---	None	---	None
			December	1.2-2.0	1.3-2.0	---	---	None	---	None
LaB: Laidig-----	C	Medium	January	2.2-3.9	2.5-4.2	---	---	None	---	None
			February	2.2-3.9	2.5-4.2	---	---	None	---	None
			March	2.2-3.9	2.5-4.2	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
LaC: Laidig-----	C	Medium	January	2.2-3.9	2.5-4.2	---	---	None	---	None
			February	2.2-3.9	2.5-4.2	---	---	None	---	None
			March	2.2-3.9	2.5-4.2	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
LaD: Laidig-----	C	High	January	2.2-3.9	2.5-4.2	---	---	None	---	None
			February	2.2-3.9	2.5-4.2	---	---	None	---	None
			March	2.2-3.9	2.5-4.2	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
LdB: Laidig-----	C	Low	January	2.2-3.9	2.5-4.2	---	---	None	---	None
			February	2.2-3.9	2.5-4.2	---	---	None	---	None
			March	2.2-3.9	2.5-4.2	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
LdC: Laidig-----	C	Medium	January	2.2-3.9	2.5-4.2	---	---	None	---	None
February			2.2-3.9	2.5-4.2	---	---	None	---	None	
March			2.2-3.9	2.5-4.2	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
LkB: Leck Kill-----	B	Low	All months	---	---	---	---	None	---	None
LkC: Leck Kill-----	B	Low	All months	---	---	---	---	None	---	None
LkD: Leck Kill-----	B	Medium	All months	---	---	---	---	None	---	None
LkE: Leck Kill-----	B	Medium	All months	---	---	---	---	None	---	None
LmD: Leck Kill-----	B	Low	All months	---	---	---	---	None	---	None
LnB: Leetonia-----	C	Very low	All months	---	---	---	---	None	---	None
LnC: Leetonia-----	C	Low	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Lo: Linden-----	B	Very low	January	3.0-6.0	>6.0	---	---	None	Very brief	Occasional
			February	3.0-6.0	>6.0	---	---	None	Very brief	Occasional
			March	3.0-6.0	>6.0	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.0-6.0	>6.0	---	---	None	Very brief	Occasional
			December	3.0-6.0	>6.0	---	---	None	Very brief	Occasional
Lr: Linden-----	B	Very low	January	3.0-6.0	>6.0	---	---	None	Brief	Rare
			February	3.0-6.0	>6.0	---	---	None	Brief	Rare
			March	3.0-6.0	>6.0	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	3.0-6.0	>6.0	---	---	None	Brief	Rare
			December	3.0-6.0	>6.0	---	---	None	Brief	Rare
MeB: Meckesville-----	C	Medium	January	2.2-3.7	2.5-4.0	---	---	None	---	None
			February	2.2-3.7	2.5-4.0	---	---	None	---	None
			March	2.2-3.7	2.5-4.0	---	---	None	---	None
			April	2.2-3.7	2.5-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.2-3.7	2.5-4.0	---	---	None	---	None
			December	2.2-3.7	2.5-4.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
MeC: Meckesville-----	C	Medium	January	2.2-3.7	2.5-4.0	---	---	None	---	None
			February	2.2-3.7	2.5-4.0	---	---	None	---	None
			March	2.2-3.7	2.5-4.0	---	---	None	---	None
			April	2.2-3.7	2.5-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.2-3.7	2.5-4.0	---	---	None	---	None
			December	2.2-3.7	2.5-4.0	---	---	None	---	None
MeD: Meckesville-----	C	High	January	2.2-3.7	2.5-4.0	---	---	None	---	None
			February	2.2-3.7	2.5-4.0	---	---	None	---	None
			March	2.2-3.7	2.5-4.0	---	---	None	---	None
			April	2.2-3.7	2.5-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.2-3.7	2.5-4.0	---	---	None	---	None
			December	2.2-3.7	2.5-4.0	---	---	None	---	None
MhD: Meckesville-----	C	Medium	January	2.2-3.7	2.5-4.0	---	---	None	---	None
			February	2.2-3.7	2.5-4.0	---	---	None	---	None
			March	2.2-3.7	2.5-4.0	---	---	None	---	None
			April	2.2-3.7	2.5-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.2-3.7	2.5-4.0	---	---	None	---	None
			December	2.2-3.7	2.5-4.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Mn: Melvin-----	D	Very high	January	0.0-0.5	>6.0	---	---	None	Long	Occasional
			February	0.0-0.5	>6.0	---	---	None	Long	Occasional
			March	0.0-0.5	>6.0	---	---	None	Long	Occasional
			April	0.0-0.5	>6.0	---	---	None	Long	Occasional
			May	0.0-0.5	>6.0	---	---	None	Long	Occasional
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.0-0.5	>6.0	---	---	None	Long	Occasional
Newark-----	C	Very high	January	1.0-1.6	>6.0	---	---	None	Long	Occasional
			February	1.0-1.6	>6.0	---	---	None	Long	Occasional
			March	1.0-1.6	>6.0	---	---	None	Long	Occasional
			April	1.0-1.6	>6.0	---	---	None	Long	Occasional
			May	1.0-1.6	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.0-1.6	>6.0	---	---	None	---	None
MoB: Morrison-----	B	Low	All months	---	---	---	---	None	---	None
MoC: Morrison-----	B	Low	All months	---	---	---	---	None	---	None
MuA: Murrill-----	B	Low	All months	---	---	---	---	None	---	None
MuB: Murrill-----	B	Medium	All months	---	---	---	---	None	---	None
MuC: Murrill-----	B	Medium	All months	---	---	---	---	None	---	None
MuD: Murrill-----	B	High	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
NoA: Nolo-----	D	Very high	January	0.0-0.5	1.3-2.5	---	---	None	---	None
February			0.0-0.5	1.3-2.5	---	---	None	---	None	
March			0.0-0.5	1.3-2.5	---	---	None	---	None	
April			0.0-0.5	1.3-2.5	---	---	None	---	None	
May			0.0-0.5	1.3-2.5	---	---	None	---	None	
June			0.0-0.5	1.3-2.5	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			0.0-0.5	1.3-2.5	---	---	None	---	None	
October			0.0-0.5	1.3-2.5	---	---	None	---	None	
November			0.0-0.5	1.3-2.5	---	---	None	---	None	
December			0.0-0.5	1.3-2.5	---	---	None	---	None	
NsA: Nolo-----			D	Very high	January	0.0-0.5	1.3-2.5	---	---	None
February	0.0-0.5	1.3-2.5			---	---	None	---	None	
March	0.0-0.5	1.3-2.5			---	---	None	---	None	
April	0.0-0.5	1.3-2.5			---	---	None	---	None	
May	0.0-0.5	1.3-2.5			---	---	None	---	None	
June	0.0-0.5	1.3-2.5			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	0.0-0.5	1.3-2.5			---	---	None	---	None	
October	0.0-0.5	1.3-2.5			---	---	None	---	None	
November	0.0-0.5	1.3-2.5			---	---	None	---	None	
December	0.0-0.5	1.3-2.5			---	---	None	---	None	
OeE: Opequon-----	C	High			All months	---	---	---	---	None
OhD: Opequon-----	C	High	All months	---	---	---	---	None	---	None
Hagerstown-----	B	High	All months	---	---	---	---	None	---	None
OsD: Opequon-----	C	High	All months	---	---	---	---	None	---	None
Hagerstown-----	B	High	All months	---	---	---	---	None	---	None
PaE: Pennval-----	B	High	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency	
				Ft	Ft	Ft					
Pb: Philo-----	B	Low	January	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			February	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			March	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			April	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			May	---	---	---	---	None	Very brief	Occasional	
			June	---	---	---	---	None	---	None	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	---	---	---	---	None	---	None	
			November	---	---	---	---	None	---	None	
			December	0.9-2.0	>6.0	---	---	None	---	Very brief	Occasional
Pc: Philo-----	B	Low	January	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			February	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			March	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			April	0.9-2.0	>6.0	---	---	None	Very brief	Occasional	
			May	---	---	---	---	None	Very brief	Occasional	
			June	---	---	---	---	None	---	None	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	---	---	---	---	None	---	None	
			November	---	---	---	---	None	---	None	
			December	0.9-2.0	>6.0	---	---	None	---	Very brief	Occasional
Linden-----	B	Very low	January	3.0-6.0	>6.0	---	---	None	Very brief	Occasional	
			February	3.0-6.0	>6.0	---	---	None	Very brief	Occasional	
			March	3.0-6.0	>6.0	---	---	None	Very brief	Occasional	
			April	---	---	---	---	None	Very brief	Occasional	
			May	---	---	---	---	None	---	None	
			June	---	---	---	---	None	---	None	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	---	---	---	---	None	---	None	
			November	3.0-6.0	>6.0	---	---	None	---	Very brief	Occasional
			December	3.0-6.0	>6.0	---	---	None	---	Very brief	Occasional
Ps: Pits-----	---	---	---	---	---	---	---	---	---		

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Pt: Potomac-----	A	Low	January	---	---	---	---	None	Long	Frequent
			February	---	---	---	---	None	Long	Frequent
			March	---	---	---	---	None	Long	Frequent
			April	---	---	---	---	None	Long	Frequent
			May	---	---	---	---	None	Brief	Frequent
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Occasional
			August	---	---	---	---	None	Brief	Occasional
			September	---	---	---	---	None	Brief	Frequent
			October	---	---	---	---	None	Brief	Frequent
			November	---	---	---	---	None	Brief	Frequent
			December	---	---	---	---	None	Brief	Frequent
Pu: Purdy-----	D	High	January	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			February	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			March	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			April	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			May	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			June	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			July	---	---	---	---	Rare	---	None
			August	---	---	---	---	Rare	---	None
			September	---	---	---	---	Rare	---	None
			October	---	---	---	---	Rare	---	None
			November	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
			December	0.0-0.5	>6.0	0.0-1.0	---	Rare	---	None
Qu: Quarry-----	---	---	---	---	---	---	---	---	---	---
RaF: Rock outcrop-----	D	Very high	All months	---	---	---	---	None	---	None
Rubble land-----	A	Low	All months	---	---	---	---	None	---	None
Rb: Rubble land-----	A	Low	All months	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
TaA: Tilsit-----	C	High	January	1.0-1.8	1.5-2.3	---	---	None	---	None
			February	1.0-1.8	1.5-2.3	---	---	None	---	None
			March	1.0-1.8	1.5-2.3	---	---	None	---	None
			April	1.0-1.8	1.5-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
TaB: Tilsit-----	C	High	January	1.0-1.8	1.5-2.3	---	---	None	---	None
			February	1.0-1.8	1.5-2.3	---	---	None	---	None
			March	1.0-1.8	1.5-2.3	---	---	None	---	None
			April	1.0-1.8	1.5-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
TaC: Tilsit-----	C	Very high	January	1.0-1.8	1.5-2.3	---	---	None	---	None
			February	1.0-1.8	1.5-2.3	---	---	None	---	None
			March	1.0-1.8	1.5-2.3	---	---	None	---	None
			April	1.0-1.8	1.5-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
TmA: Timberville-----	B	Low	January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Very rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	Brief	Very rare
			December	---	---	---	---	None	Brief	Rare
TmB: Timberville-----	B	Medium	All months	---	---	---	---	None	---	None
UnB: Ungers-----	B	Medium	All months	---	---	---	---	None	---	None
UnC: Ungers-----	B	Medium	All months	---	---	---	---	None	---	None
UoB: Ungers-----	B	Low	All months	---	---	---	---	None	---	None
UoC: Ungers-----	B	Medium	All months	---	---	---	---	None	---	None
UoE: Ungers-----	B	High	All months	---	---	---	---	None	---	None
UpF: Ungers-----	B	High	All months	---	---	---	---	None	---	None
Meckesville-----	C	High	January	2.5-4.0	2.5-4.9	---	---	None	---	None
			February	2.5-4.0	2.5-3.5	---	---	None	---	None
			March	2.5-4.0	2.5-3.5	---	---	None	---	None
			April	2.5-4.0	2.5-3.5	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	2.5-4.0	2.5-3.5	---	---	None	---	None
			December	2.5-4.0	2.5-3.5	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
UrC: Urban land-----	---	Very high	All months	---	---	---	---	None	---	None
Berks-----	C	Low	All months	---	---	---	---	None	---	None
UsB: Urban land-----	---	Very high	All months	---	---	---	---	None	---	None
Comly-----	C	Low	January	1.2-2.4	1.7-2.9	---	---	None	---	None
			February	1.2-2.4	1.7-2.9	---	---	None	---	None
			March	1.2-2.4	1.7-2.9	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-2.9	---	---	None	---	None
			December	1.2-2.4	1.7-2.9	---	---	None	---	None
UsC: Urban land-----	---	Very high	All months	---	---	---	---	None	---	None
Comly-----	C	Medium	January	1.2-2.4	1.7-2.9	---	---	None	---	None
			February	1.2-2.4	1.7-2.9	---	---	None	---	None
			March	1.2-2.4	1.7-2.9	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-2.9	---	---	None	---	None
			December	1.2-2.4	1.7-2.9	---	---	None	---	None
Ut: Urban land-----	---	Very high	All months	---	---	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Ut: Linden-----	B	Very low	January	3.0-6.0	>6.0	---	---	None	Brief	Very rare
			February	3.0-6.0	>6.0	---	---	None	Brief	Very rare
			March	3.0-6.0	>6.0	---	---	None	Brief	Very rare
			April	---	---	---	---	None	Brief	Very rare
			May	---	---	---	---	None	Brief	Very rare
			June	---	---	---	---	None	Brief	Very rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	3.0-6.0	>6.0	---	---	None	Brief	Very rare
			December	3.0-6.0	>6.0	---	---	None	Brief	Very rare
WaA: Watson-----	C	Medium	January	1.0-2.2	1.5-2.7	---	---	None	---	None
			February	1.0-2.2	1.5-2.7	---	---	None	---	None
			March	1.0-2.2	1.5-2.7	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-2.2	1.5-2.7	---	---	None	---	None
			December	1.0-2.2	1.5-2.7	---	---	None	---	None
WbB: Wharton-----	C	Medium	January	1.2-2.5	1.3-2.5	---	---	None	---	None
			February	1.2-2.5	1.3-2.5	---	---	None	---	None
			March	1.2-2.5	1.3-2.5	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.3-2.5	---	---	None	---	None
			December	1.2-2.5	1.3-2.5	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WbC: Wharton-----	C	High	January	1.2-2.5	1.3-2.5	---	---	None	---	None
			February	1.2-2.5	1.3-2.5	---	---	None	---	None
			March	1.2-2.5	1.3-2.5	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.3-2.5	---	---	None	---	None
			December	1.2-2.5	1.3-2.5	---	---	None	---	None
WeB: Wharton-----	C	Medium	January	1.2-2.5	1.3-2.5	---	---	None	---	None
			February	1.2-2.5	1.3-2.5	---	---	None	---	None
			March	1.2-2.5	1.3-2.5	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.3-2.5	---	---	None	---	None
			December	1.2-2.5	1.3-2.5	---	---	None	---	None
WgB: Wharton-----	C	Medium	January	1.2-2.5	1.3-2.5	---	---	None	---	None
			February	1.2-2.5	1.3-2.5	---	---	None	---	None
			March	1.2-2.5	1.3-2.5	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.5	1.3-2.5	---	---	None	---	None
			December	1.2-2.5	1.3-2.5	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WgB: Cookport-----	C	High	January	0.9-1.8	1.3-2.3	---	---	None	---	None
			February	0.9-1.8	1.3-2.3	---	---	None	---	None
			March	0.9-1.8	1.3-2.3	---	---	None	---	None
			April	0.9-1.8	1.3-2.3	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.9-1.8	1.3-2.3	---	---	None	---	None
WhA: Wheeling-----	B	Low	All months	---	---	---	---	None	---	None
WyA: Wyoming-----	A	Negligible	All months	---	---	---	---	None	---	None
WyB: Wyoming-----	A	Low	All months	---	---	---	---	None	---	None
ZoA: Zoar-----	C	Medium	January	1.5-2.5	1.7-2.5	---	---	None	---	None
			February	1.5-2.5	1.7-2.5	---	---	None	---	None
			March	1.5-2.5	1.7-2.5	---	---	None	---	None
			April	1.5-2.5	1.7-2.5	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.5-2.5	1.7-2.5	---	---	None	---	None

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
AeB: Aeric Epiaquents----	Bedrock (lithic)	30-65	Strongly cemented	Moderate	High	High
AfD: Allegheny-----	---	---	---	Low	Low	High
AgB: Allenwood-----	---	---	---	Moderate	Moderate	High
AgC: Allenwood-----	---	---	---	Moderate	Moderate	High
AgD: Allenwood-----	---	---	---	Moderate	Moderate	High
At: Atkins-----	---	---	---	High	High	Moderate
Ba: Barbour-----	---	---	---	Moderate	Low	Moderate
Bb: Barbour-----	---	---	---	Moderate	Low	Moderate
Craigs ville-----	---	---	---	Moderate	Low	Moderate
Bc: Basher-----	---	---	---	High	Moderate	Moderate
BeB: Berks-----	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Low	High
BeC: Berks-----	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Low	High
BeD: Berks-----	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Low	High
Weikert-----	Bedrock (paralithic)	10-20	Very strongly cemented	Moderate	Moderate	Moderate
BeE: Berks-----	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Low	High
Weikert-----	Bedrock (paralithic)	10-20	Very strongly cemented	Moderate	Moderate	Moderate
EgA: Brinkerton-----	Fragipan	20-30	---	High	High	High
BhB: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
BhD: Buchanan-----	Fragipan	20-36	---	Moderate	High	High

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Hardness		Uncoated steel	Concrete
BmB: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
BmC: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
BuB: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
Andover-----	Fragipan	18-25	---	High	High	High
BuC: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
Andover-----	Fragipan	18-25	---	High	High	High
BxB: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
Andover-----	Fragipan	18-25	---	High	High	High
BxC: Buchanan-----	Fragipan	20-36	---	Moderate	High	High
Andover-----	Fragipan	18-25	---	High	High	High
CaB: Calvin-----	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
CaC: Calvin-----	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
CbC: Cedarcreek-----	Bedrock (lithic)	61-120	Indurated	Low	High	High
CbD: Cedarcreek-----	Bedrock (lithic)	61-120	Indurated	Low	High	High
CbE: Cedarcreek-----	Bedrock (lithic)	61-120	Indurated	Low	High	High
CcA: Chenango-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	Moderate
CcB: Chenango-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	Moderate
CdB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CdD: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CeA: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CeB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CeC: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
CfB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CgB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
Cookport-----	Fragipan	16-27	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-60	Indurated			
ChB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
Hazleton-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
CmA: Comly-----	Fragipan	20-35	---	Moderate	High	Moderate
	Bedrock (lithic)	61-120	Indurated			
CmB: Comly-----	Fragipan	20-35	---	Moderate	High	Moderate
	Bedrock (lithic)	61-120	Indurated			
CmC: Comly-----	Fragipan	20-35	---	Moderate	High	Moderate
	Bedrock (lithic)	61-120	Indurated			
CnB: Cookport-----	Fragipan	16-27	Noncemented	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-64	Indurated			
CoA: Cookport-----	Fragipan	16-27	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-72	Indurated			
CoB: Cookport-----	Fragipan	16-27	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-60	Indurated			
CpB: Cookport-----	Fragipan	16-27	Noncemented	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-60	Indurated			
CpD: Cookport-----	Fragipan	16-27	Noncemented	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-72	Indurated			
Cr: Craigsville-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	Moderate
Fr: Freetown-----	Bedrock (lithic)	61-120	Indurated	High	High	High

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
GpB: Gilpin-----	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
GpC: Gilpin-----	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
GwD: Gilpin-----	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
Wharton-----	Bedrock (paralithic)	61-120	Very strongly cemented	High	High	High
HeA: Hagerstown-----	Bedrock (lithic)	40-80	Indurated	Moderate	Moderate	Low
HeB: Hagerstown-----	Bedrock (lithic)	40-80	Indurated	Moderate	Moderate	Low
HeC: Hagerstown-----	Bedrock (lithic)	40-80	Indurated	Moderate	Moderate	Low
HfB: Hagerstown-----	Bedrock (lithic)	40-80	Indurated	Moderate	Moderate	Low
HgC: Hagerstown-----	Bedrock (lithic)	40-80	Indurated	Moderate	Moderate	Low
Opequon-----	Bedrock (lithic)	12-24	Indurated	Moderate	Moderate	Low
HhA: Hartleton-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
HhB: Hartleton-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
HhC: Hartleton-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
HjC: Hazleton-----	Bedrock (lithic)	40-68	Indurated	Moderate	Low	High
HkE: Hazleton-----	Bedrock (lithic)	40-68	Indurated	Moderate	Low	High
HLB: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
Hazleton-----	Bedrock (lithic)	40-80	Indurated	Moderate	Low	High
HlC: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
Hazleton-----	Bedrock (lithic)	40-80	Indurated	Moderate	Low	High
HlD: Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Hardness		Uncoated steel	Concrete
H1D: Hazleton-----	Bedrock (lithic)	40-80	Indurated	Moderate	Low	High
HmB: Hazleton-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
HmD: Hazleton-----	Bedrock (lithic)	40-68	Indurated	Moderate	Low	High
Clymer-----	Bedrock (lithic)	40-60	Indurated	Moderate	Low	High
HoF: Hazleton-----	Bedrock (lithic)	40-68	Indurated	Moderate	Low	High
Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
HuB: Hustontown-----	Fragipan	18-32	---	High	High	High
HuC: Hustontown-----	Fragipan	18-32	---	High	High	High
HuD: Hustontown-----	Abrupt textural change	18-32	---	High	High	High
KcD: Klinesville-----	Bedrock (paralithic)	10-20	Very strongly cemented	Moderate	Moderate	High
KcE: Klinesville-----	Bedrock (paralithic)	10-20	Very strongly cemented	Moderate	Moderate	High
KrA: Kreamer-----	Bedrock (lithic)	61-120	Indurated	High	High	Moderate
LaB: Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
LaC: Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
LaD: Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
LdB: Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
LdC: Laidig-----	Fragipan	30-50	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
LkB: Leck Kill-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
LkC: Leck Kill-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
LkD: Leck Kill-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
LkE: Leck Kill-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
LmD: Leck Kill-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
LnB: Leetonia-----	Bedrock (lithic)	40-60	Indurated	Low	Low	High
LnC: Leetonia-----	Bedrock (lithic)	40-60	Indurated	Low	Low	High
Lo: Linden-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
Lr: Linden-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
MeB: Meckesville-----	Fragipan	30-48	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
MeC: Meckesville-----	Fragipan	30-48	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
MeD: Meckesville-----	Fragipan	30-48	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
MhD: Meckesville-----	Fragipan	30-48	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
Mn: Melvin-----	Bedrock (lithic)	61-120	Indurated	None	High	Low
Newark-----	Bedrock (lithic)	61-119	Indurated	High	High	Low

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
MoB: Morrison-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
MoC: Morrison-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
MuA: Murrill-----	Bedrock (lithic)	61-120	Indurated	Moderate	Moderate	High
MuB: Murrill-----	Bedrock (lithic)	61-120	Indurated	Moderate	Moderate	High
MuC: Murrill-----	Bedrock (lithic)	61-120	Indurated	Moderate	Moderate	High
MuD: Murrill-----	Bedrock (lithic)	61-120	Indurated	Moderate	Moderate	High
NoA: Nolo-----	Fragipan	16-30	---	High	High	High
	Bedrock (paralithic)	40-60	Very strongly cemented			
NsA: Nolo-----	Fragipan	16-30	---	High	High	High
	Bedrock (paralithic)	40-60	Very strongly cemented			
OeE: Opequon-----	Bedrock (lithic)	12-20	Indurated	Moderate	Moderate	Low
OhD: Opequon-----	Bedrock (lithic)	12-20	Indurated	Moderate	Moderate	Low
	Hagerstown-----	40-80	Indurated	Moderate	Moderate	Low
OsD: Opequon-----	Bedrock (lithic)	12-20	Indurated	Moderate	Moderate	Low
	Hagerstown-----	40-80	Indurated	Moderate	Moderate	Low
PaE: Pennval-----	Bedrock (lithic)	80-98	Indurated	Moderate	Moderate	Moderate
Pb: Philo-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
Pc: Philo-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
	Linden-----	61-120	---	Moderate	Low	High
Ps: Pits-----	---	---	---	---	---	---
Pt: Potomac-----	Bedrock (lithic)	61-120	Indurated	Low	Low	Moderate
Pu: Purdy-----	Bedrock (lithic)	61-120	Indurated	High	High	High

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
Qu: Quarry-----	---	---	---	---	---	---
RaF: Rock outcrop-----	Bedrock (lithic)	0-0	Indurated	---	---	---
Rubble land-----	Bedrock (lithic)	40-40	Indurated	---	---	---
Rb: Rubble land-----	Bedrock (lithic)	40-40	Indurated	---	---	---
TaA: Tilsit-----	Fragipan	18-28	---	None	High	High
	Bedrock (lithic)	61-120	Indurated			
TaB: Tilsit-----	Fragipan	18-28	---	None	High	High
	Bedrock (lithic)	61-120	Indurated			
TaC: Tilsit-----	Fragipan	18-28	---	None	High	High
	Bedrock (lithic)	61-120	Indurated			
TmA: Timberville-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
TmB: Timberville-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	High
UnB: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
UnC: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
UoB: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
UoC: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
UoE: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
UpF: Ungers-----	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Low	High
Meckesville-----	Fragipan	30-48	---	Moderate	Moderate	High
	Bedrock (lithic)	61-120	Indurated			
UrC: Urban land-----	---	---	---	---	---	---

Soil Survey of Clinton County, Pennsylvania

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
UrC: Berks-----	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Low	High
UsB: Urban land-----	---	---	---	---	---	---
Comly-----	Fragipan	20-35	---	Moderate	High	Moderate
	Bedrock (lithic)	61-120	Indurated			
UsC: Urban land-----	---	---	---	---	---	---
Comly-----	Fragipan	20-35	---	Moderate	High	Moderate
	Bedrock (lithic)	61-120	Indurated			
Ut: Urban land-----	---	---	---	---	---	---
Linden-----	Bedrock (lithic)	61-120	---	Moderate	Low	High
WaA: Watson-----	Fragipan	18-32	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	61-120	Indurated			
WbB: Wharton-----	Bedrock (paralithic)	61-72	Very strongly cemented	High	High	High
WbC: Wharton-----	Bedrock (paralithic)	61-72	Very strongly cemented	High	High	High
WeB: Wharton-----	Bedrock (paralithic)	61-72	Very strongly cemented	High	High	High
WgB: Wharton-----	Bedrock (paralithic)	61-72	Very strongly cemented	High	High	High
Cookport-----	Fragipan	16-27	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-72	Indurated			
WhA: Wheeling-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	Moderate
WyA: Wyoming-----	Bedrock (lithic)	61-120	Indurated	Low	Low	High
WyB: Wyoming-----	Bedrock (lithic)	61-120	Indurated	Moderate	Low	Moderate
ZoA: Zoar-----	Bedrock (lithic)	61-120	Indurated	Moderate	High	High

Soil Survey of Clinton County, Pennsylvania

Table 22.--Classification of the Soils

Soil name	Family or higher taxonomic class
Aeric Epiaquents-----	Aeric Epiaquents
Allegheny-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Allenwood-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Andover-----	Fine-loamy, mixed, active, mesic Typic Fragiaguults
Atkins-----	Fine-loamy, mixed, active, acid, mesic Fluvaquentic Endoaquepts
Barbour-----	Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Fluventic Dystrudepts
Basher-----	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Berks-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Brinkerton-----	Fine-silty, mixed, superactive, mesic Typic Fragiaguults
Buchanan-----	Fine-loamy, mixed, semiactive, mesic Aquic Fragiudults
Calvin-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Cedarcreek-----	Loamy-skeletal, mixed, active, acid, mesic Typic Udorthents
Chenango-----	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Clymer-----	Coarse-loamy, siliceous, active, mesic Typic Hapludults
Comly-----	Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs
Cookport-----	Fine-loamy, mixed, active, mesic Aquic Fragiudults
Craigsville-----	Loamy-skeletal, mixed, superactive, mesic Fluventic Dystrudepts
Freetown-----	Dysic, mesic Typic Haplosaprists
Gilpin-----	Fine-loamy, mixed, active, mesic Typic Hapludults
Hagerstown-----	Fine, mixed, semiactive, mesic Typic Hapludalfs
Hartleton-----	Loamy-skeletal, mixed, active, mesic Typic Hapludults
Hazleton-----	Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts
Hustontown-----	Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs
Klinesville-----	Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts
Kreamer-----	Fine, illitic, mesic Aquic Hapludults
Laidig-----	Fine-loamy, siliceous, active, mesic Typic Fragiudults
Leck Kill-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Leetonia-----	Sandy-skeletal, siliceous, mesic Entic Haplorthods
Linden-----	Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts
Meckesville-----	Fine-loamy, mixed, active, mesic Typic Fragiudults
Melvin-----	Fine-silty, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Morrison-----	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Murrill-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Newark-----	Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts
Nolo-----	Fine-loamy, mixed, superactive, mesic Typic Fragiaguults
Opequon-----	Clayey, mixed, active, mesic Lithic Hapludalfs
Pennval-----	Fine-loamy, mixed, active, mesic Typic Hapludults
Philo-----	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Potomac-----	Sandy-skeletal, mixed, mesic Typic Udifluvents
Purdy-----	Fine, mixed, active, mesic Typic Endoaquults
Tilsit-----	Fine-silty, mixed, semiactive, mesic Typic Fragiudults
Timberville-----	Fine, mixed, active, mesic Typic Hapludults
Ungers-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Watson-----	Fine-loamy, mixed, active, mesic Typic Fragiudults
Weikert-----	Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts
Wharton-----	Fine-loamy, mixed, active, mesic Aquic Hapludults
Wheeling-----	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Wyoming-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Zoar-----	Fine, mixed, semiactive, mesic Aquic Hapludults

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