United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Michigan Agricultural
Experiment Station

Soil Survey of Alger County, Michigan

How To Use This Soil Survey

General Soil Map

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

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

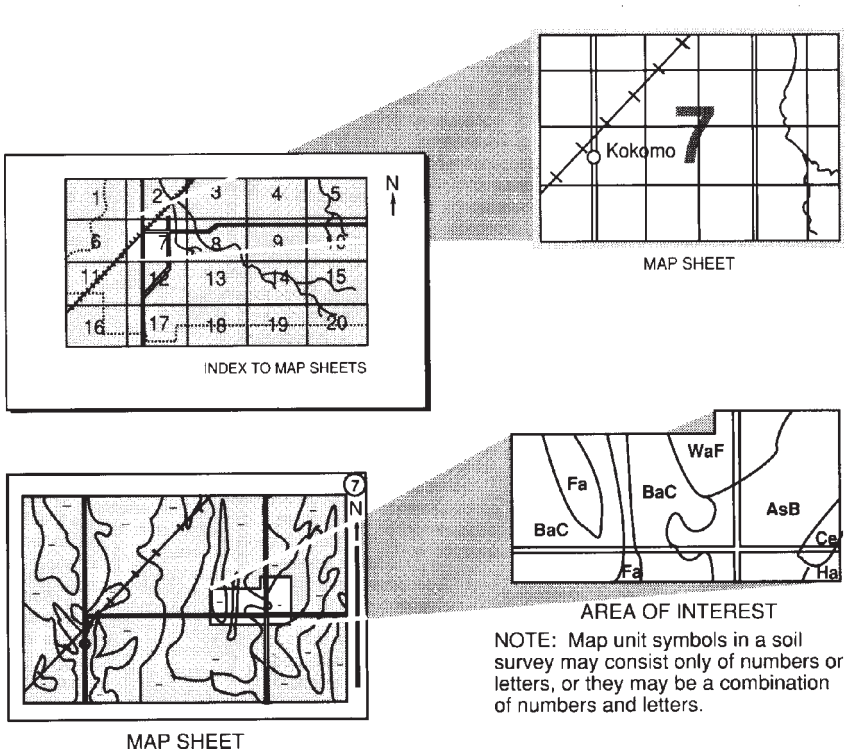
Detailed Soil Maps

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

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

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

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



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service; the Forest Service; the Michigan Department of Agriculture; the Michigan Agricultural Experiment Station; Michigan State University, Cooperative Extension Service; and Michigan Technological University. The survey is part of the technical assistance furnished to the Alger County Soil and Water Conservation District. The Alger County Board of Commissioners provided financial assistance.

Major fieldwork for this soil survey was completed in 2002. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. The most current official data are available on the Internet (http://soils.usda.gov).

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

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Cover Photo Caption

Miners Castle at Pictured Rocks National Lakeshore, in an area of the Shingleton-Trout Bay-Munising, calcareous substratum, association.

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

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

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

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

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

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

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

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Soil Survey of
Alger County, Michigan

By Charles F. Schwenner, Natural Resources Conservation Service

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United States Department of Agriculture, Natural Resources Conservation Service and Forest Service, in cooperation with Michigan Department of Agriculture; the Michigan Agricultural Experiment Station; Michigan State University, Cooperative Extension Service; and Michigan Technological University

Alger County is in the central part of the Upper Peninsula of Michigan (fig. 1). It is bordered by Lake Superior. It has an area of 606,887 acres, or about 947 square miles. The population of Alger County was 9,819 in 1996. The city of Munising is the county seat.

About 88 percent of the county is forested. Only about 2 percent of the county is classified as farmland. Forestry and tourism are the main economic enterprises in the county.

The soils in the survey area vary widely in texture, natural drainage, slope, and other characteristics. Because of steep slopes, droughtiness, and stoniness, many of the soils are best suited to use as forestland.

This survey updates earlier surveys of Alger County (Veatch and others, 1929; Berndt, 1967). It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the Survey Area

This section gives general information about Alger County. It describes climate, physiography, landforms, history and development, farming, industry and transportation facilities, recreation, wildlife habitat, and lakes and streams.

Climate

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

In winter, the average temperature is 18.9 degrees F and the average daily minimum temperature is 11.2 degrees. The lowest temperature during the period of

Figure 1.—Location of Alger County in Michigan.

record, which occurred at Munising on January 19, 1994, is -27 degrees. In summer, the average temperature is 62.5 degrees and the average daily maximum temperature is 73.1 degrees. The highest temperature, which occurred at Munising on July 7, 1988, is 101 degrees.

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

The average annual total precipitation is 36.45 inches. Of this total, 13.38 inches, or about 37 percent, usually falls in June through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall on record was 3.51 inches at Munising on May 31, 1970. Thunderstorms occur on about 29 days each year, and most occur between June and September.

The average seasonal snowfall is 146.1 inches. The greatest snow depth at any one time during the period of record is 76 inches recorded on March 9, 1972. On an average, about 65 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 13.9 inches recorded on December 12, 1961.

The average relative humidity in midafternoon is about 55 percent in May and nearly 75 percent in December. Humidity is higher at night, and the average at dawn is about 80 percent in most months and nearly 90 percent from June through September. The sun shines 60 percent of the time possible in summer and 34 percent in winter. The prevailing wind is from the northwest for most of the year, but it is from the south during most of the summer. Average windspeed is highest, around 10 miles per hour, during March and April.

Physiography

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The topography of Alger County is dominated by the bedrock-controlled shoreline of Lake Superior with cliffs, benches, beach ridges, and dunes rising rapidly 200 to 400 feet into a complex of glacial deposits, including ground moraines, recessional moraines, drumlins, disintegration moraines, outwash plains, drainage channels, ice-contact features, lacustrine deposits, and swamps. Elevation ranges from about 602 feet to more than 1,100 feet.

The bedrock of Alger County consists primarily of Cambrian and Ordovician rocks. The iron-rich igneous and metamorphic rocks to the west of Alger County were uplifted to spectacular heights over 600 million years ago during the Penokean Orogeny near the end of the Precambrian. As these mountains were eroded, stream and lake sediments were deposited that led to the formation of the Jacobsville Sandstone (fig. 2). Later, in the Cambrian and into the Ordovician, the invasion of the area by seas resulted in marine sandstone, dolomite, limestone, and shale formations (Dorr and Eschman, 1970).

The Jacobsville Sandstone occurs at the unconformity between the Precambrian and Cambrian and is generally considered to be Early and Middle Cambrian in age. The Jacobsville Sandstone consists of a succession of red to white, coarse grained to fine grained, feldspathic and quartzose sandstone with layers of shale and conglomerate. The western side of Grand Island, just north of Munising, features spectacular cliffs of Jacobsville Sandstone that exhibit beautiful red and white streaks that are the result of the oxidation, reduction, and leaching of iron.

The Late Cambrian is represented by the Munising Formation, which consists of white and light gray, dolomitic and glauconitic sandstone; red, green, and gray shale; and a basal conglomerate. Spectacular exposures of the Munising Formation can be seen in the Pictured Rocks National Lakeshore east of Munising. Chapel Rock and Miners Castle are two prominent shoreline features that display namesake members of the Munising Formation (Haddox and Dott, 1990; Hamblin, 1958).

Rocks of Ordovician age consist primarily of dolomitic sandstone, dolomite, limestone, and shale. They include the Au Train Formation, Black River Group, and Trenton Group. The Au Train Formation of Middle Ordovician age is a light brown to

Figure 2.—An exposure of Jacobsville Sandstone in an area of Buckroe-Rock outcrop complex, 6 to 25 percent slopes, very bouldery. Areas of rock outcrop can hinder the use of equipment for logging activities.

white dolomitic sandstone. The resistant Au Train Formation unconformably overlies the easily eroded Miners Castle Member of the Munising Formation and caps the Cambro-Ordovician cuesta, leading to the formation of fascinating shoreline features and numerous waterfalls, including Miners, Munising, Laughing Whitefish, and Au Train Falls.

During the Pleistocene ice age, the Upper Peninsula was repeatedly covered by glacial ice (Dorr and Eschman, 1970). The glacial landforms and deposits of the region are the result of the last major glacial stage, known as the Greatlakean. The Marquette readvance of the ice sheet occurred about 10,000 years ago and may have been the last major advance (Farrand and Drexler, 1985; Hughes, 1978).The glacial deposits range from 0 to more than 500 feet in thickness. They include till, drainage channel deposits, ice-contact stratified drift, outwash, lacustrine deposits, and eolian deposits. In some areas there is only a thin layer of basal till that closely reflects the bedrock over which the glacier passed. In other areas there may be several layers of glacial deposits representing a sequence of advances, ablation of ice, and proglacial activity.

The Marquette Lobe covered most of Alger County. The ice apparently advanced fairly rapidly over southwestern Alger County, probably due to the softer limestone and dolomite bedrock. The resulting fluted ground moraine is characterized by parallel grooves and intervening ridges along with a few scattered drumlins. The reddish brown loamy till is commonly calcareous and reflects the sandstone, dolomitic sandstone, and lake sediments over which the glacier passed as well as the underlying dolomite and limestone. The more acidic reddish brown till in the vicinity of Munising becomes more calcareous and less red to the east as the bedrock influence changes from Jacobsville Sandstone to dolomitic sandstone, dolomite, and limestone.

As the Marquette ice terminus retreated northward, recessional moraines were constructed during stillstands or during minor readvances. An example of a narrow recessional moraine can be observed where it crosses U.S. 41 about 1 mile south of Kiva (Hughes, 1971).

The wasting away of the stagnant ice margin led to the formation of complex ice wastage features characterized by kame terraces, head-of-outwash, kettles, ice-contact slope, small outwash plains, and proglacial lakes. Large areas of the ice-margin complex occur south and east of Munising. These areas have been referred to as the Munising Moraine and Newberry Moraine and were formerly interpreted as being terminal moraines (Bergquist, 1936; Leverett, 1929).

Melting of glacial ice within the Superior Basin produced huge rivers and lakes, resulting in a variety of glaciofluvial and glaciolacustrine deposits. Eskers, crevasse fillings, kame terraces, kames, and kettles are ice-contact features that occur throughout the area of ablation on the disintegration moraines and in other areas. These features consist of stratified sandy and gravelly deposits, commonly grading into proglacial outwash. The outwash plains consist of broad, relatively flat areas of sandy and gravelly deposits that in places grade into finer lacustrine sediments at the margin. Examples are the Kingston Plains and the large sand plains south of Wetmore. Large areas of these outwash plains are pitted with numerous kettle lakes and depressions.

As the ice front melted back, outlets were opened for glacial lakes Duluth and Agassiz, which resulted in catastrophic flooding. As water from these huge lakes to the west poured east, various outlet channels were cut leading to the Au Train-Whitefish channel and draining to the south. The resulting scabland topography can be observed in the area north of Sundell, Rumely, Eben, and Chatham, including Laughing Whitefish Gorge, Rock River Canyon, and Silver Creek Canyon (Drexler and others, 1983; Hughes, 1971).

As the ice terminus retreated further north, a series of lower drainage outlets was uncovered. The ice front confined a large west-to-east-draining meltwater river against ice-free land to the south. Drainage shifted from the south, along the Au Train-Whitefish channel, to the east, along the Pictured Rocks area (Drexler, 1981; Drexler and others, 1983). Meltwater carved several channels into Cambrian sandstone bedrock, including those now occupied by Chapel Creek, Mosquito River, and Beaver Basin, and shorelines in the basin receded rapidly northward, leaving the Pictured Rocks area “high and dry” about 9,500 years ago (Farrand and Drexler, 1985). This process occurred as outlet channels to the east remained at low levels due to the recent loading on the earth’s crust by glacier ice.

After removal of the ice, the crust of the earth began to rebound. As the land rose, the water levels of the Great Lakes fluctuated as outlets changed. Once the outlets of the Great Lakes stabilized, around 6,000 years before present, the level of ancestral Lake Superior rose to a level roughly 40 feet higher than present (after rebound). This high lake stand has been designated as glacial Lake Nipissing (Hough, 1958; Larsen, 1987). As the level of Lake Nipissing rose, the Grand Sable Banks were destabilized and part of the glaciofluvial deposit was reworked by wind to form the Grand Sable Dunes (Anderton and Loope, 1995; Farrell and Hughes, 1985; Marsh and Marsh, 1987). During the Nipissing high stand, Chapel Rock and Miners Castle and numerous perched sea caves were carved into the Cambrian sandstone by wave action. Beaver, Chapel, Miners, Au Train, and Deer Lakes represent embayments on ancient Lake Nipissing.

Slowing of rebound, downcutting of channels through unconsolidated material, shifting of outlets to the south, and climatic change subsequently caused a lowering of Lake Superior to near its present level (Farrand and Drexler, 1985; Larsen, 1987). As erosion lowered the Lake Nipissing outlet to the modern Lake Superior level, lake currents deposited a succession of parallel beach ridges from the Nipissing level to the present beach. These closely spaced ridges, which form a “corrugated plain” (Bergquist, 1936), are evident in the vicinity of Au Sable Point, on Sand Point, and on the tombolo between Trout Bay and Murray’s Bay on Grand Island.

Since much of eastern Upper Michigan is characterized by low relief and a covering of glacial drift, bedrock controls surface geomorphology in only a few places. From east to west across northern Alger County, where the veneer of drift is thin, a cuesta formed on the resistant Au Train Formation (Dorr and Eschman, 1970). This cuesta comprises the Pictured Rocks. All north-flowing streams in Alger County form waterfalls as they cross the cuesta. The falls include Miners Falls, Au Train Falls, and Laughing Whitefish Falls.

In postglacial times, erosion and deposition continued to modify the landscape. Rock surfaces were exposed as they were stripped of sediment. Smooth slopes of glacial deposits were dissected by drainageways. Shorelines were modified by waves and currents. Eroded silts and sands were deposited, dried, blown by the wind, and redeposited. Alluvial soils were deposited on flood plains, and organic deposits formed in swamps. Small, shallow lakes filled with vegetation and became bogs. In time, as vegetation began to stabilize the soil, the various ecosystems of today began to form, reflecting the physiography of Alger County.

Landforms

Following are descriptions of the major types of landforms in Alger County (see Landform Map).

Ground Moraine (east of Trenary)

This landform is a nearly level to rolling till plain consisting predominantly of moderately well drained and well drained, loamy soils that formed in an eolian mantle

overlying calcareous lodgment till (Shoepac and Trenary soils). There are also medium and large areas of poorly drained mineral soils and very poorly drained organic soils in the lower landscape positions and in drainageways (Ensley, Cathro, and Carbondale soils). Also included are areas of poorly drained and moderately well drained, loamy soils that are shallow and moderately deep to limestone bedrock (Ruse and Reade soils). These soils occur on structural benches within the ground moraine. The bedrock breaks the surface intermittently, particularly along creeks and rivers, such as the West Branch of the Whitefish River. This landform was deposited prior to the Marquette advance, which occurred approximately 10,000 years ago.

Ground Moraine (Munising Moraine)

This landform is east of Munising. It is a nearly level to rolling till plain consisting predominantly of moderately well drained and well drained, loamy soils that formed in an eolian mantle overlying calcareous lodgment till (Greylock soils and Munising, calcareous substratum, soils). A thin mantle of sandy outwash and/or drift overlies many areas of the loamy till (Blue Lake soils and Yalmer, calcareous substratum, soils). There are also medium and large areas of very poorly drained organic soils in depressions and drainageways (Carbondale, Lupton, and Tawas soils). Also included are well drained, loamy soils that are moderately deep to dolomite and dolomitic sandstone (Cookson soils). A small drumlin field is in the southeast part of this landform adjacent to Schoolcraft County. This landform was deposited during the Marquette advance, which occurred approximately 10,000 years ago.

Fluted Ground Moraines

This landform occurs west of Trenary and north and south of State Highway M-94. It is a nearly level to moderately sloping till plain consisting predominantly of moderately well drained and well drained, loamy soils that formed in an eolian mantle overlying calcareous lodgment till (Shoepac and Trenary soils). The paralleled grooves and ridges of this landform are generally oriented in a north-south direction. Poorly drained mineral soils and very poorly drained organic soils are in depressions and drainageways (Ensley, Cathro, and Carbondale soils). Also included are small areas of the well drained and moderately well drained Traunik and McMaster soils in drainageways. Acidic loamy till occurs in the northern parts of this landform. This landform was deposited prior to the Marquette advance, which occurred approximately 10,000 years ago.

Disintegration Moraine (border of Luce County)

This landform is a gently undulating to very steep system of moraines consisting of sandy ablation or flow till and outwash. It is characterized by a chaotic mound-and-pit topography, generally randomly oriented, with enclosed depressions. The dominant soils in the uplands are Dillingham, Kalkaska, and Garlic soils. The soils in the enclosed depressions are the very poorly drained Dawson, Greenwood, and Loxley soils. Small and medium areas of Cusino soils, which formed in sandy and gravelly outwash, also are included in areas of this landform. This landform was deposited prior to the Marquette advance, which occurred approximately 10,000 years ago.

Disintegration Moraine (“Hay Meadow Moraine”)

This moraine is a buried moraine along the border of Delta County. It is a gently undulating to very steep system of moraines consisting of sandy ablation or flow till and outwash that has an intermittent loamy eolian mantle. This landform is characterized by a chaotic mound-and-pit topography, generally randomly oriented, with enclosed depressions. The dominant soils in the uplands are Kalkaska, Stutts, and Blue Lake soils. Greenwood, Dawson, and Loxley soils are the dominant soils in

the enclosed depressions. This landform was deposited prior to the Marquette advance, which occurred about 10,000 years ago.

Disintegration Moraine (Steuben Moraine)

This landform occurs along the border with Schoolcraft County. It is a gently undulating to very steep system of moraines consisting of sandy ablation or flow till and sandy outwash. An intermittent loamy eolian mantle overlies these deposits. This landform is characterized by a chaotic mound-and-pit topography, generally randomly oriented, with enclosed depressions. The dominant soils in the uplands are Islandlake, Kalkaska, Garlic, McMillan, and Stutts soils. Greenwood, Dawson, and Loxley soils are the dominant soils in the enclosed depressions.

Ice-Margin Complex (Marquette advance)

This complex is a gently undulating to very steep assemblage of landforms that include head-of-outwash, ice-contact slope, moraines, kame terraces, outwash plains, and proglacial lakes. These landforms were constructed proximal to a relatively static, rapidly wasting glacial margin. The well drained Blue Lake and Garlic soils are the dominant soils in areas of this landform. They formed in sandy ablation or flow till and outwash. Smaller areas of sandy and silty lacustrine and sandy and gravelly outwash soils also occur in areas of this landform (Voelker, Fence, and Cusino soils).

Beach Ridges and Dunes

This landform occurs as nearly level to steep, sandy deposits on beach ridges and dunes. The beach ridges are roughly parallel to the shoreline, representing successive positions of a receding shoreline. Much of this landform exhibits a ridge-and-swale topography with wet soils in the swales and dry sandy soils on the beach ridges. The dunes are both active and stabilized. Deer Park soils are the dominant soils on the beach ridges, and Shelldrake soils are the dominant soils on the stabilized dunes. Kinross and Dawson soils are the dominant soils in the swales and depressions. Embayments also occur in areas of this landform.

Outwash Fans

This landform consists of nearly level to hilly outwash deposits adjacent to the ice-margin complex and ice-contact slopes. The somewhat excessively drained Kalkaska soils are the dominant soils in areas of this landform. This landform developed in the outwash of the Marquette advance.

Pitted Outwash Plains

This landform is a nearly level to hilly outwash plain with numerous enclosed depressions. It is adjacent to the ice-margin complex and ice-contact slopes. Included are smaller areas of outwash fans and numerous kettle lakes. The somewhat excessively drained Kalkaska soils are the dominant soils in the uplands. Greenwood, Dawson, Loxley, and Kinross soils are the dominant soils in the enclosed depressions. This landform developed in the outwash of the Marquette advance.

Outwash Plains

This landform dominantly occurs as nearly level outwash plains. Most areas are dominated by very poorly drained organic soils (Tawas and Carbondale soils) and poorly drained, sandy mineral soils (Deford soils), except for the outwash plain (Kingston outwash) in the eastern part of the county, which is dominated by the somewhat excessively drained Kalkaska soils. This landform developed in outwash from the Marquette advance.

Bedrock-Controlled Ground Moraine (Miners River area)

This landform occurs as shallow to moderately deep, sandy glaciofluvial deposits and moderately deep to very deep, loamy till overlying sandstone bedrock (Munising and Au Train Formations). A very steep rock outcrop escarpment of these formations is along Lake Superior east of Munising (Pictured Rocks National Lakeshore). The glaciofluvial deposits are mainly the result of kame terraces and glacial drainage channels that were formed during the discharge from the Marquette advance and from glacial Lake Duluth. The dominant soils are the very poorly drained Trout Bay and poorly drained Gongeau soils in depressions and drainageways and the somewhat excessively drained Shingleton and moderately well drained Munising, calcareous substratum, soils in the uplands.

Recessional Moraines

This landform is a nearly level to hilly moraine consisting of sandy and gravelly outwash (Traunik soils) and loamy calcareous lodgment till (Shoepac soils). Also, numerous organic soils, including Carbondale and Cathro soils, are in the relict glacial drainageways. This landform marks the farthest extent of the Marquette advance.

Kame Terraces

This landform occurs as a series of outwash terraces that were deposited between the ice and a higher glacier landform. The nearly level to very steep terraces are dominantly characterized by the excessively drained Kalkaska and Cusino soils in the uplands. In some areas these deposits overlie lodgment till and/or bedrock. Also included are small areas of glacial channels in depressions and drainageways. The very poorly drained Carbondale and Tawas soils are the dominant soils in these areas. This landform was formed during the discharge from the Marquette advance and from glacial Lake Duluth.

Glacial Drainage Channels

This landform occurs as a nearly level to very steep series of channels and terraces that were deposited during deglaciation of the Marquette advance and discharge from glacial Lake Duluth. Many of the soils on upland terraces have sandy-skeletal profiles; depending on the underlying bedrock, the substratum of these soils may be either acidic (Waiska soils) or calcareous (Eben soils). In other areas the channels eroded down to the underlying bedrock. Many of the soils that formed in these areas are shallow soils, such as the excessively drained Shingleton and poorly drained Gongeau and Ruse soils. In areas where the bedrock was “soft” sandstone, as in the Munising Formation, gorges were formed. An example is the gorge along the Rock River.

Bedrock-Controlled Ground Moraine (west of Munising)

This landform is a nearly level to very steep ground moraine consisting of a discontinuous thin mantle of loamy lodgment till and sandy and gravelly glaciofluvial deposits overlying sandstone bedrock. The landform has two distinct geomorphic features. One part of the landform consists of four distinct “outliers,” which are bedrock highs that were relatively unaffected by glaciofluvial deposits. These areas have a thin deposit of loamy lodgment till overlying sandstone bedrock. They also have dissected side slopes, and many of the ravines have perennial streams. The dominant soils are the very deep, moderately well drained Munising and moderately deep, moderately well drained Abbaye soils in the uplands and the shallow, poorly drained Gongeau soils in the ravine bottoms. The other part of the landform consists

of a nearly level to rolling ground moraine that has a thin discontinuous mantle of loamy lodgment till and/or sandy or sandy-skeletal glaciofluvial deposits overlying sandstone bedrock (kame terraces and glacial drainage channels). This part of the landform ranges from very stony to extremely bouldery. The dominant soils are the shallow, moderately well drained Sauxhead and shallow, poorly drained Burt soils.

History and Development

Based on information from “Alger County: A Centennial History, 1885-1985,” published by the Alger County Historical Society in 1986.

The Ojibwas were the early inhabitants of the survey area. Their population was small, and they were likely nomadic, traveling with the seasons in search of forage and game. As early as 1619, the first French fur traders and missionaries had begun to document and name lakeshore features, such as Grand Marais, Pictured Rocks, and Au Sable dunes. There were few passing explorers, trading posts, or missionaries along the shoreline for more than two centuries.

By the 1840s, U.S. government contractors had surveyed the lands of present-day Alger County and the area was opened up for timber land acquisition and settlement. With the onset of lake commerce around 1860, Munising and Grand Marais became logical harbor sites for industrial development and utilization of the abundant natural resources. By the 1880s, Munising and Grand Marais were boomtown settlements.

From the beginning, the vast resources of timber supported the growth and development of Alger County. The first commercial enterprise was the marketing of timber pine. This effort was short-lived, and markets turned towards hardwood timber. In two locations, iron was made for which charcoal was kilned locally from the hardwood timber. The iron ore was shipped from the iron regions in the west. The Schoolcraft Iron Company opened the first blast furnace in Munising Bay, where iron ore was smelted from the late 1860s through the late 1870s. In the 1870s, another blast furnace was established at Bay Furnace, near present-day Christmas. Both furnaces were productive and shipped out tens of thousands of tons of charcoal pig iron. Eventually, as the economics of the business changed, iron production ceased. For some time longer, however, charcoal still continued to be kilned and moved by rail to the iron regions in the west.

The completion of the Mackinac & Marquette railroad from St. Ignace to Marquette in 1881 marked a shift from the declining iron smelting and charcoal industries towards other resources in timber. Later in 1895, the completion of the Munising Railway with its terminus at Munising Bay opened the interior of the county for transportation and continued timber export. Tthe county seat was moved from Au Train to Munising in 1900.

The rather short-lived pine boom of the 1880s and 1890s and, later, the cordwood camps of the early 1900s supplied local saw mills, veneer mills, paper mills, and tanneries in Munising, Au Train, and Grand Marais and provided large exports elsewhere in the Great Lakes region. By the 1900s, much of the hardwood logging was done by Finnish, Slovenian, Swedish, and French immigrants. The Cleveland-Cliffs Company was the major employer of these cordwood camps. Centered on small railroad villages, dozens of communities, such as Coalwood, Hanely, Forest Lake, Acherman Lake, Cold Springs, Camerson, Louds Spur, Rumely, and Dorsey, rose and fell. Adversity resulting from economics, war, depression, fires, mechanization, and depletion of resources all affected the prosperity of the cordwood camps. In the 1930s and 1940s, Roosevelt’s Civilian Conservation Corps (CCC) camps began to seed pine into the cleared stumpland, which resulted in much of the pole-sized pine in the area today.

Few large farms existed until the increased arrival of immigrants around 1900. The Michigan Legislature funded the U.P. Agricultural Experimental Station at Chatham in 1899. Shortly thereafter, in 1904, the first soil survey of Alger County was developed by the Department of Agriculture. Eight soil types were recognized in this survey, and interpretations and suitabilities of the soils for agriculture were described. Most farms were settled in the western and southwestern parts of the county near Chatham and Trenary, where conditions are generally favorable for plant growth and large tracts of cleared stumpland remained after logging. In addition to livestock operations, such crops as hay, oats, barley, wheat, and potatoes were grown. In 1930, less than 10 percent of the land in the county was used for agriculture.

According to the Bureau of the Census, the 1930 population estimate of 9,327 has risen only slightly to the 1998 estimate of 9,887. Along with the prison industry, the hardwood lumber-veneer and paper products industries remain the county's largest employers. Year-round snowmobiling, skiing, hunting, camping, hiking, and other forms of tourism all contribute substantially to the economy in the area. The Hiawatha National Forest was established in 1931, and the spectacular Pictured Rocks National Lakeshore was established in 1972.

Alger County was separated from Schoolcraft County and organized on March 17, 1885. It was named after Russell A. Alger, the Governor of Michigan.

Farming

The history of farming in Alger County is directly related to the logging industry. As the forests were logged, many of the early settlers purchased the "cutover" land and began farming. These early farmers, who also worked part-time in the woods, had small dairy herds and grew mainly oats, barley, and hay for their livestock (Alger County Historical Society, 1986). They also grew vegetables and fruit for home consumption. The local logging camps were some of the earliest customers for their farm products. The farming community grew steadily, augmented by an influx of immigrants in the early 1900s and the availability of land. The establishment of the Michigan State Agricultural Experiment Station in Chatham was instrumental in helping the early farmers employ the latest advances in agronomy and animal husbandry.

Farming began to decline in the early 1950s with the advent of larger and more modern, mechanized farming operations. The area's distance from markets and its short growing season also made it hard for local farmers to stay in business. In 1992, there were 59 farms in Alger County with an average size of about 280 acres (Michigan Department of Agriculture, 1992). The county had 8,208 acres of cropland, of which 4,600 acres was used for hay and 600 acres was used for oats and barley. The remaining acreage was used as pastureland or for other specialty crops. Dairying is still the major farming enterprise; there are also a few beef and sheep operations in the area. Specialty crops, such as strawberries, potatoes, and Christmas trees, also are grown to meet the local demand. There is a growing market for organic fruits and vegetables.

Most of the farmland is in the southwestern part of the county near Sundell, Rumely, Eben, Chatham, and Trenary. The dominant soils in the county that are used for crops are Trenary, Shoepac, Chatham, and Traunik soils. Recently, people have moved to the country so they can have a few horses or livestock and space for a vegetable and flower garden. If this trend continues, most of the former and current cropland in Alger County will be preserved for future generations.

Industry and Transportation Facilities

Timber and pulpwood enterprises are the major sources of employment in Alger County. Other sources include tourism, prison facilities, hospital and health care facilities, retail trade and service, government, and schools. Wood products are the county's main industry. A paper mill and a lumber and veneer mill are the major local manufacturers of wood products. There are also local sawmills throughout the county. The majority of the pulpwood is hauled to paper mills in Escanaba and Quinnesec.

The main roads in the county are State Highways M-28, M-94, M-67, and M-77 and U.S. Highway 41. The county is served by the Wisconsin Central Railroad, which runs east from Munising. A small airport provides seasonal air transportation.

Recreation

Alger County offers a wide variety of recreational opportunities. It has many fine campgrounds along its rivers and inland lakes and along the Lake Superior shoreline. There are numerous scenic waterfalls in the county. The Hiawatha National Forest, Grand Island National Recreation Area, Pictured Rocks National Lakeshore, and the Lake Superior and Escanaba River State Forests cover a major portion of the county. Recreational activities include snowmobiling, skiing, hiking, backpacking, hunting, fishing, canoeing, and kayaking. The streams in the county are noted for their trout, and Lake Superior is noted for its lake trout, coho salmon, and whitefish. The county offers some of the finest areas for snowmobiling and cross-country skiing in the Midwest. There are many miles of groomed snowmobile and ski trails. The picturesque sandstone cliffs of the Pictured Rocks National Lakeshore and Grand Island are very popular destinations for kayakers and boaters. The North Country National Scenic Trail and the Bay De Noc Grand Island National Recreation Trail are popular destinations for hikers and backpackers. The tourism industry is one of the leading sources of income in Alger County.

Wildlife Habitat

Alger County has a large and diverse population of wildlife and fish. White-tailed deer, black bear, coyote, fox, snowshoe hare, squirrels, hawks, owls, songbirds, and bald eagles are common. The endangered peregrine falcon nests high along the steep sandstone cliffs on Grand Island. A small but increasing population of timber wolves is making a comeback in the region. A few moose can be seen in the large swamps on the eastern side of the county. The lakes and streams support northern pike, walleye, yellow perch, smallmouth bass, largemouth bass, panfish, brook trout, brown trout, and rainbow trout. The offshore waters and bays of Lake Superior support good populations of lake trout, coho salmon, and whitefish.

Lakes and Streams

Alger County has 266 inland lakes with a surface area of about 23,424 acres. The five largest lakes are Au Train, Cleveland Cliffs Basin, Sixteen Mile, Beaver, and Grand Sable Lakes. The county has over 80 miles of Lake Superior shoreline.

The major rivers are the Laughing Whitefish, Au Train, Whitefish, Indian, Sturgeon, Sucker, and Miners Rivers. The Laughing Whitefish, Au Train, Miners, and Sucker Rivers are part of the Lake Superior watershed. The Whitefish, Indian, and Sturgeon Rivers are part of the Lake Michigan watershed. These rivers along with their numerous tributary streams offer excellent recreational opportunities, ranging from trout fishing to canoeing.

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 93B and 94B. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation and topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Alger County is a subset of MLRA 93B, Superior Stony and Rocky Loamy Plains and Hills, Eastern Part, and MLRA 94B, Michigan Eastern Upper Peninsula Sandy Drift. Map unit design is based on documentation of the occurrence of soils throughout an MLRA. In some places in this publication, a soil may be referred to that was not mapped in Alger County but that does occur within the MLRA.

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

The soils 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 is associated with a particular kind or segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate 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. The maximum depth of observation was about 80 inches (6.7 feet). The soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil 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. Interpretations are modified as necessary 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 seasonal high water table within certain depths in most years, but they cannot predict that the water table will always be at a specific level in the soil on a specific date.

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

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved 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.

Survey Procedures

The general procedures followed in making this survey are described in the “National Soil Survey Handbook” of the Natural Resources Conservation Service (USDA/NRCS). The Hiawatha National Forest Ecological Classification System (Kudray, 2002; Landwehr, 2004) was used in conjunction with the handbook to prepare the soil survey on the Forest Service lands within the administrative boundary of the Hiawatha National Forest. The map units on the Forest Service lands were designed differently from those in other parts of the survey area.

The ecological classification system is an integrated system that includes evaluation and classification of landscape areas. Ecological units are mapped on aerial photographs, and interpretations are made from inventory maps for use in managing forestland and resources.

Procedures for Private and State Lands

Prior to the start of the project, soil scientists reviewed previously completed soil survey maps made for conservation planning and for earlier published soil surveys of Alger County. Other references included bedrock and glacial landform maps that were studied and used to plan mapping strategy. Before the actual fieldwork was begun, preliminary boundaries of slopes and landforms were plotted stereoscopically on 1:24,000 leaf-off aerial photographs. USGS topographic maps at a scale of 1:24,000 were used to help the soil scientists relate land and image features.

A reconnaissance was made by pickup truck before the surface was traversed on foot. In areas where the soil pattern is very complex, traverses and random observations were spaced as closely as 200 yards. In areas where the soil pattern is relatively simple, traverses were about one-fourth mile apart.

As the traverses were made, the landscape was divided into segments. For example, a hillside was separated from a swale and a gently sloping ridgetop from a very steep side slope.

Observations of such items as landforms, vegetation, and roadcuts were made without regard to spacing. Soil boundaries were determined on the basis of examinations, observations of the landscape and vegetation, and photo

interpretation. The soil material was examined with the aid of a hand auger or a spade to a depth of about 7 feet. The pedons described as typical were observed and studied in pits that were dug with backhoes or by hand using shovels, mattocks, and digging bars.

Notes were taken on the composition of map units during the first years of the project. These notes were supplemented with transect data and additional notes as mapping progressed and as the composition of individual map units was determined.

Samples for chemical and physical analyses were taken from representative sites of some soils in the survey area. The analyses were made by the Soil Survey Laboratory in Lincoln, Nebraska. The results of the analyses are stored in a computerized data file at the laboratory. The results of the analyses and descriptions of the laboratory procedures can be obtained on request from the laboratory or from the State office of the Natural Resources Conservation Service in East Lansing, Michigan.

After the completion of soil mapping on aerial photographs, map unit delineations were transferred by hand to another set of the same photographs. Cultural features were recorded from observations of the maps and the landscape.

Procedures for the Hiawatha National Forest

Before ecological units were mapped, information on the climate, geology, soils, hydrology, and vegetation in the survey area was collected. Existing soil maps were reviewed. An ecological land-type phase key from the Huron-Manistee Forest was adopted and modified for use on the sandy outwash plains of the forest. A wetland ecological land-type key was developed by Greg Kudray (Kudray, 2002). Prior to the start of fieldwork, map units were delineated on aerial photos using stereoscopic techniques. The pre-mapping reconnaissance was designed to test the variety of ecological land-type phases on the west unit of the Hiawatha National Forest. Based on the pre-mapping reconnaissance and early production mapping, two additional land-type groups were added to the key.

Following reconnaissance, mapping personnel traversed the landscape, evaluated the components of the current ecosystems, determined and observed ecological unit boundaries in the field, and delineated preliminary map units on aerial photographs at a scale of 4 inches to a mile. During field mapping, stereo images, photo-tones, and photo colors were used to delineate landscape features on the aerial photographs. Some important characteristics used by the field personnel to evaluate the context of an area included water table levels, soil texture and color, drainage systems, geologic indicators, and interpretation of vegetative species groups.

Mappers typically inventoried 300 to 500 acres per day. They performed detailed evaluations and completed data cards on at least one plot per mapping delineation. These sites were strategically selected for the examination of landscape features and the collection of data on overstory, understory, ground flora, forest floor, soil, substratum, and ground water depths for documenting ecological units. Profiles of sandy soils were described to a depth of 15 feet. The presence of textural bands deep in the substratum in sandy soils has been shown to have a significant influence on tree growth and species composition (Hannah and Zahner, 1970; Host and others, 1988). Thus, recording the presence, absence, or intensity of deep-lying textural bands or water tables was an important part of the sampling and inventory scheme on outwash plains. In loamy or rocky areas, the soils were described to a depth of 7 feet. Following field inventory, the plot data were entered into an Access database. These data are a permanent part of the forest records available at the Hiawatha National Forest supervisor’s office.

Following field inventory, the final boundaries of the ecological units were drawn on the aerial photographs. The completed photography was checked for line closure and

for matching of delineations across photographs. From the photos, the mapping information was transferred to 1:24,000, 3-millimeter-thick mylar and checked for consistency and line closure. The mylars were scanned and rectified, and the electronic coverage was attributed with ecological land-type phase (ELTP) codes. Hardcopy maps were made, and the digital product was checked for consistency.

Ecological land-type phase (ELTP) map units on forest service lands were line matched to soil map units (SMUs) on private and State lands. Edge-matching typically occurred in the field so that questionable map units could be checked. An ELTP-to-SMU correlation legend was created to provide a crosswalk between ELTPs and soil map units. Each polygon (delineation) on Forest Service lands was given an ELTP code and an SMU code. Once the maps were completed and checked for consistency, private and State mapping was added to the Forest Service mapping.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. These broad areas are called associations. Each association on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one association can occur in another but in a different pattern.

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

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

1. Shoepac-Trenary-Carbondale Association

Very deep, nearly level to steep, well drained to very poorly drained, loamy and mucky soils on ground moraines

Setting

Landform: Ground moraines
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 5 percent
Extent of the soils in the association:
Shoepac and similar soils: 30 percent
Trenary and similar soils: 20 percent
Carbondale and similar soils: 18 percent
Soils of minor extent: 32 percent

Soil Properties and Qualities

Shoepac
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Silty eolian mantle over loamy till
Texture of the surface layer: Silt loam
Slope: Nearly level and gently sloping

Trenary
Depth class: Very deep
Drainage class: Well drained
Parent material: Silty eolian mantle over loamy till

Texture of the surface layer: Silt loam
Slope: Gently undulating to steep

Carbondale
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level

Soils of Minor Extent

- Traunik soils in landscape positions similar to those of the Shoepac and Trenary soils
- Ensley and Nahma soils in depressions and drainageways
- Charlevoix, McMaster, and Reade soils in nearly level and gently undulating areas

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Carbondale soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.
- Skidders should not be used in areas of the Shoepac and Trenary soils during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Carbondale soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

2. Shoepac-Ensley-Cathro Association

Very deep, nearly level and gently sloping, moderately well drained to very poorly drained, loamy and mucky soils on ground moraines

Setting

Landform: Ground moraines
Slope range: 0 to 6 percent

Composition

Extent of the association in the survey area: 7 percent
Extent of the soils in the association:
Shoepac and similar soils: 35 percent
Ensley and similar soils: 20 percent
Cathro and similar soils: 15 percent
Soils of minor extent: 30 percent

Soil Properties and Qualities

Shoepac
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Silty eolian mantle over loamy till

Texture of the surface layer: Silt loam
Slope: Nearly level and gently sloping

Ensley
Depth class: Very deep
Drainage class: Poorly drained
Parent material: Loamy till
Texture of the surface layer: Muck
Slope: Nearly level

Cathro
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits over loamy till
Texture of the surface layer: Muck
Slope: Nearly level

Soils of Minor Extent

- Escanaba, Traunik, and Trenary soils in nearly level to rolling areas
- Charlevoix and Reade soils in nearly level and gently undulating areas
- Nahma soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Cathro and Ensley soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Skidders should not be used in areas of the Shoepac soils during wet periods, when ruts form easily.
- Because of seedling mortality and wetness, trees are generally not planted in areas of the Cathro and Ensley soils.
- Windthrow can be minimized by using harvest methods that do not leave the remaining trees widely spaced.

3. Munising, Calcareous Substratum-Carbondale-Greylock Association

Very deep, nearly level to steep, well drained to very poorly drained, loamy and mucky soils on ground moraines

Setting

Landform: Ground moraines
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 10 percent
Extent of the soils in the association:
Munising, calcareous substratum, and similar soils: 30 percent
Carbondale and similar soils: 25 percent
Greylock and similar soils: 15
Soils of minor extent: 30 percent

Soil Properties and Qualities

Munising, calcareous substratum
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Loamy eolian material over loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to rolling

Carbondale
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level

Greylock
Depth class: Very deep
Drainage class: Well drained
Parent material: Loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to steep

Soils of Minor Extent

- Blue Lake, Cookson, Escanaba, and Steuben soils in landscape positions similar to those of the Munising and Greylock soils
- Au Gres, Charlevoix, and Halfaday soils in nearly level and gently undulating areas
- Deford, Ensley, and Nahma soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Carbondale soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.
- In areas of the Munising and Greylock soils, skidders should not be used during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Carbondale soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

4. Munising-Abbaye-Deerton Association

Very deep to moderately deep, nearly level to very steep, moderately well drained and excessively drained, loamy and sandy soils on bedrock-controlled moraines

Setting

Landform: Bedrock-controlled moraines
Slope range: 1 to 70 percent

Composition

Extent of the association in the survey area: 7 percent
Extent of the soils in the association:
Munising and similar soils: 40 percent
Abbaye and similar soils: 20 percent
Deerton and similar soils: 15 percent
Soils of minor extent: 25 percent

Soil Properties and Qualities

Munising
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to rolling

Abbaye
Depth class: Moderately deep
Drainage class: Moderately well drained
Parent material: Loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to moderately sloping

Deerton
Depth class: Moderately deep
Drainage class: Excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Gently undulating to very steep

Soils of Minor Extent

- Shingleton, Tokiahok, and Waiska soils in nearly level to very hilly areas
- Carbondale, Gay, Gongeau, Jacobsville, Jeske, and Skanee soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- The hazard of erosion can be reduced by building roads on the contour; by seeding logging roads, landings, and areas that have been cut and filled; and by installing culverts and water bars.
- Skidders should not be used in areas of the Munising and Abbaye soils during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base.
- Using containerized planting stock can help to prevent seedling mortality in areas of the Deerton soils.
- Selective cutting can reduce the windthrow hazard.

5. Sauxhead-Burt-Munising Association

Shallow to very deep, nearly level to rolling, moderately well drained and poorly drained, sandy and loamy soils on bedrock-controlled ground moraines

Setting

Landform: Bedrock-controlled ground moraines
Slope range: 0 to 15 percent

Composition

Extent of the association in the survey area: 2 percent
Extent of the soils in the association:
Sauxhead and similar soils: 25 percent
Burt and similar soils: 25 percent
Munising and similar soils: 20 percent
Soils of minor extent: 30 percent

Soil Properties and Qualities

Sauxhead
Depth class: Shallow
Drainage class: Moderately well drained
Parent material: Sandy and channery glaciofluvial deposits
Texture of the surface layer: Sandy loam
Slope: Nearly level and gently sloping

Burt
Depth class: Shallow
Drainage class: Poorly drained
Parent material: Sandy glaciofluvial deposits
Texture of the surface layer: Muck
Slope: Nearly level

Munising
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to rolling

Soils of Minor Extent

- Frohling soils in very hilly to steep areas
- Skandia, Cathro, Gay, and Skanee soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Burt soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.
- Skidders should not be used in areas of the Munising and Sauxhead soils during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.

- Trees are generally not planted in areas of the Burt soil because of wetness and seedling mortality.
- Selective cutting can reduce the windthrow hazard.

6. Shingleton-Trout Bay-Munising, Calcareous Substratum, Association

Shallow to very deep, nearly level to very steep, somewhat excessively drained to very poorly drained, sandy, mucky, and loamy soils on bedrock-controlled ground moraines

Setting

Landform: Bedrock-controlled ground moraines
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 5 percent
Extent of the soils in the association:
Shingleton and similar soils: 35 percent
Trout Bay and similar soils: 20 percent
Munising, calcareous substratum, and similar soils: 20 percent
Soils of minor extent: 25 percent

Soil Properties and Qualities

Shingleton
Depth class: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sandy glaciofluvial deposits
Texture of the surface layer: Loamy sand
Slope: Nearly level to very steep

Trout Bay
Depth class: Moderately deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level to steep

Munising, calcareous substratum
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Loamy eolian material over loamy till
Texture of the surface layer: Fine sandy loam
Slope: Nearly level to rolling

Soils of Minor Extent

- Gongeau and Nahma soils in depressions and drainageways
- Au Train, Ensign, Jeske, and Nykanen soils in nearly level and gently undulating areas
- Deer Park and Shelldrake soils in nearly level and gently sloping areas

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- Building roads on the contour can help to control erosion.
- In areas of the Trout Bay soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.
- Skidders should not be used in areas of the Munising soils during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base, and culverts are needed to provide natural drainage.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Trout Bay soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

7. Kalkaska-Dillingham Association

Very deep, nearly level to very steep, somewhat excessively drained and well drained, sandy soils on disintegration moraines

Setting

Landform: Disintegration moraines
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 3 percent
Extent of the soils in the association:
Kalkaska and similar soils: 50 percent
Dillingham and similar soils: 25 percent
Soils of minor extent: 25 percent

Soil Properties and Qualities

Kalkaska
Depth class: Very deep
Drainage class: Somewhat excessively drained
Parent material: Sand
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Dillingham
Depth class: Very deep
Drainage class: Well drained
Parent material: Sand
Texture of the surface layer: Loamy sand
Slope: Nearly level to very steep

Soils of Minor Extent

- Greenwood and Kinross soils in depressions
- Paquin and Finch soils in nearly level and gently undulating areas
- Okeefe and Wallace soils in landscape positions similar to those of the Kalkaska and Dillingham soils

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, erosion hazard, seedling mortality
Management considerations:
- Loose sand can interfere with the traction of logging equipment.
- Building roads on the contour helps to control erosion.
- Using containerized planting stock can help to prevent seedling mortality.

8. Garlic-Blue Lake Association

Very deep, nearly level to very steep, well drained, sandy soils on disintegretion moraines

Setting

Landform: Disintegration moraines
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 11 percent
Extent of the soils in the association:
Garlic and similar soils: 45 percent
Blue Lake and similar soils: 35 percent
Soils of minor extent: 20 percent

Soil Properties and Qualities

Garlic
Depth class: Very deep
Drainage class: Well drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Blue Lake
Depth class: Very deep
Drainage class: Well drained
Parent material: Sandy till
Texture of the surface layer: Loamy sand
Slope: Nearly level to very steep

Soils of Minor Extent

- Steuben and Waiska soils in landscape positions similar to those of the Garlic and Blue Lake soils
- Finch and Paquin soils in nearly level and gently undulating areas
- Carbondale and Deford soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations
Management considerations:
- Skid trails and roads should be located in the less sloping areas between the ravines.
- Seeding logging roads helps to prevent excessive soil loss.

- Special logging methods, such as yarding with a cable, may be needed in the very steep areas.
- Loose sand can interfere with the traction of logging equiment.

9. Shoepac-Carbondale-Traunik Association

Very deep, nearly level to steep, well drained to very poorly drained, loamy, sandy and gravelly, and mucky soils on recessional moraines

Setting

Landform: Fluted recessional moraines
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 4 percent
Extent of the soils in the association:
Shoepac and similar soils: 35 percent
Carbondale and similar soils: 25 percent
Traunik and similar soils: 20 percent
Soils of minor extent: 20 percent

Soil Properties and Qualities

Shoepac
Depth class: Very deep
Drainage class: Moderately well drained
Parent material: Silty eolian material over loamy till
Texture of the surface layer: Silt loam
Slope: Nearly level and gently sloping

Carbondale
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level

Traunik
Depth class: Very deep
Drainage class: Well drained
Parent material: Loamy mantle over gravelly and sandy outwash
Texture of the surface layer: Gravelly fine sandy loam
Slope: Nearly level to steep

Soils of Minor Extent

- McMaster soils in nearly level and gently undulating areas
- Kalkaska, Blue Lake, and Trenary soils in gently rolling and rolling areas
- Ensley and Nahma soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Carbondale soils, access is easiest during the winter, when the soils are frozen or have adequate snow cover.

- Skidders should not be used in areas of the Shoepac and Traunik soils during wet periods, when ruts form easily.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Carbondale soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

10. Kalkaska Association

Very deep, nearly level to very steep, somewhat excessively drained, sandy soils on pitted outwash plains

Setting

Landform: Pitted outwash plains
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 21 percent
Extent of the soils in the association:
Kalkaska and similar soils: 75 percent
Soils of minor extent: 25 percent

Soil Properties and Qualities

Kalkaska
Depth class: Very deep
Drainage class: Somewhat excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Soils of Minor Extent

- Finch and Paquin soils in nearly level and gently undulating areas
- Carbondale and Kinross soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality
Management considerations:
- Building roads on the contour can help to control erosion.
- Loose sand can interfere with the traction of logging equipment.
- Using containerized planting stock can reduce the seedling mortality rate in areas of these droughty soils.

11. Carbondale-Kalkaska-Kinross Association

Very deep, nearly level to very steep, very poorly drained to somewhat excessively drained, mucky and sandy soils on outwash plains

Setting

Landform: Outwash plains
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 6 percent
Extent of the soils in the association:
Carbondale and similar soils: 45 percent
Kalkaska and similar soils: 20 percent
Kinross and similar soils: 15 percent
Soils of minor extent: 20 percent

Soil Properties and Qualities

Carbondale
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level

Kalkaska
Depth class: Very deep
Drainage class: Somewhat excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Kinross
Depth class: Very deep
Drainage class: Poorly drained
Parent material: Sandy outwash
Texture of the surface layer: Muck
Slope: Nearly level

Soils of Minor Extent

- Au Gres and Paquin soils in nearly level and gently undulating areas

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- Building roads on the contour, installing water bars, and seeding logging roads help to prevent excessive soil loss.
- In areas of the Carbondale and Kinross soils, access is easiest during the winter, when the soils have adequate snow cover.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Loose sand can interfere with the traction of logging equipment in areas of the Kalkaska soils.
- Trees are generally not planted in areas of the Carbondale soils because of wetness and seedling mortality.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

12. Markey-Deford-Rubicon Association

Very deep, nearly level to steep, very poorly drained to excessively drained, mucky and sandy soils on outwash plains

Setting

Landform: Outwash plains
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 2 percent
Extent of the soils in the association:
Markey and similar soils: 80 percent
Deford and similar soils: 6 percent
Rubicon and similar soils: 6 percent
Soils of minor extent: 8 percent

Soil Properties and Qualities

Markey
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits over sandy outwash
Texture of the surface layer: Muck
Slope: Nearly level

Deford
Depth class: Very deep
Drainage class: Poorly drained
Parent material: Sandy outwash
Texture of the surface layer: Muck
Slope: Nearly level

Rubicon
Depth class: Very deep
Drainage class: Excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to steep

Soils of Minor Extent

- Rousseau and Kalkaska soils on knolls and ridges
- Paquin soils in nearly level and gently undulating areas

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, windthrow hazard, seedling mortality
- In areas of the Markey and Deford soils, access is easiest during the winter, when the soils have adequate snow cover.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

- Because of wetness and seedling mortality, trees are generally not planted in areas of the Markey and Deford soils.
- Because loose sand can interfere with the traction of wheeled equipment in areas of the the Rubicon soils, logging roads should be stabilized.
- Planting special nursery stock or containerized seedlings can reduce the seedling mortality rate in areas of the Rubicon soils.

13. Kalkaska-Carbondale Association

Very deep, nearly level to very steep, somewhat excessively drained and very poorly drained, sandy and mucky soils on kame terraces and in glacial drainage channels

Setting

Landform: Kame terraces and glacial drainage channels
Slope range: 0 to 70 percent

Composition

Extent of the association in the survey area: 7 percent
Extent of the soils in the association:
Kalkaska and similar soils: 55 percent
Carbondale and similar soils: 20 percent
Soils of minor extent: 25 percent

Soil Properties and Qualities

Kalkaska
Depth class: Very deep
Drainage class: Somewhat excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Carbondale
Depth class: Very deep
Drainage class: Very poorly drained
Parent material: Organic deposits
Texture of the surface layer: Muck
Slope: Nearly level

Soils of Minor Extent

- Grand Sable soils in landscape positions similar to those of the Kalkaska soils
- Finch, Jeske, and Paquin soils in nearly level and gently undulating areas
- Deford, Gongeau, and Davies soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality, windthrow hazard

- Building roads on the contour, installing water bars, and seeding logging roads help to prevent excessive soil loss.
- Loose sand can interfere with the traction of logging equipment in areas of the Kalkaska soils.
- In areas of the Carbondale soils, access is easiest during the winter, when the soils have adequate snow cover.
- Year-round logging roads require a gravel base.

- Culverts are needed to maintain the natural drainage system.
- Using containerized planting stock helps to minimize seedling mortality in areas of the Kalkaska soils.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Carbondale soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

14. Rubicon Association

Very deep, nearly level to steep, excessively drained, sandy soils on kame terraces

Setting

Landform: Kame terraces
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 2 percent
Extent of the soils in the association:
Rubicon and similar soils: 85 percent
Soils of minor extent: 15 percent

Soil Properties and Qualities

Rubicon
Depth class: Very deep
Drainage class: Excessively drained
Parent material: Sandy outwash
Texture of the surface layer: Sand
Slope: Nearly level to steep

Soils of Minor Extent

- Croswell soils in nearly level and gently undulating areas
- Carbondale and Kinross soils in depressions and drainageways

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality
Management considerations:
- Building roads on the contour, installing water bars, and seeding logging roads help to prevent excessive soil loss.
- Because loose sand can interfere with the traction of wheeled equipment, logging roads should be stabilized.
- Planting special nursery stock or containerized seedlings can reduce the seedling mortality rate.

15. Deer Park Association

Very deep, nearly level to very steep, excessively drained, sandy soils on beach ridges and dunes

Setting

Landform: Beach ridges and dunes
Slope range: 0 to 60 percent

Composition

Extent of the association in the survey area: 3 percent
Extent of the soils in the association:
Deer Park and similar soils: 85 percent
Soils of minor extent: 15 percent

Soil Properties and Qualities

Deer Park
Depth class: Very deep
Drainage class: Excessively drained
Parent material: Sandy beach and dune deposits
Texture of the surface layer: Sand
Slope: Nearly level to very steep

Soils of Minor Extent

- Croswell soils in nearly level and gently undulating areas
- Dawson and Tawas soils in depressions

Use and Management

Major use: Forestland
Management concerns: Erosion hazard, equipment limitations, seedling mortality
Management considerations:
- Loose sand can interfere with the traction of logging equipment.
- Building roads on the contour helps to control erosion.
- Using containerized planting stock reduces the seedling mortality rate in areas of these droughty soils.

16. Chatham-Chippeny-Ruse Association

Shallow to very deep, nearly level to steep, well drained to very poorly drained, loamy and mucky soils in glacial drainage channels

Setting

Landform: Glacial drainage channels
Slope range: 0 to 35 percent

Composition

Extent of the association in the survey area: 5 percent
Extent of the soils in the association:
Chatham and similar soils: 40 percent
Chippeny and similar soils: 18 percent
Ruse and similar soils: 15 percent
Soils of minor extent: 27 percent

Soil Properties and Qualities

Chatham
Depth class: Very deep
Drainage class: Well drained
Parent material: Loamy glaciofluvial deposits
Texture of the surface layer: Gravelly fine sandy loam
Slope: Nearly level to steep

Chippeny
Depth class: Moderately deep to bedrock
Drainage class: Very poorly drained
Parent material: Organic material over loamy deposits
Texture of the surface layer: Muck
Slope: Nearly level

Ruse
Depth class: Shallow to bedrock
Drainage class: Poorly drained
Parent material: Loamy till over bedrock
Texture of the surface layer: Mucky loam
Slope: Nearly level and gently sloping

Soils of Minor Extent

- Carbondale, Nahma, and Ensley soils in landscape positions similar to those of the Chippeny and Ruse soils
- Ensign, Reade, Shoepac, and Trenary soils in landscape positions similar to those of the Chatham soils

Use and Management

Major use: Forestland
Management concerns: Equipment limitations, seedling mortality, windthrow hazard
Management considerations:
- In areas of the Chippeny and Ruse soils, access is easiest during the winter, when the soils have adequate snow cover.
- Year-round logging roads require a gravel base.
- Culverts are needed to maintain the natural drainage system.
- Skidders should not be used in areas of the Chatham soils during wet periods, when ruts form easily.
- Because of wetness and seedling mortality, trees are generally not planted in areas of the Chippeny and Ruse soils.
- Using harvest methods that do not leave the remaining trees widely spaced reduces the windthrow hazard.

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 some of the soil features and properties to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer,

slope, stoniness, 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, Munising fine sandy loam, 1 to 6 percent slopes, is a phase of the Munising 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. Map unit 148B, Shoepac-Ensley complex, 0 to 6 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. Map unit 57, Carbondale, Lupton, and Tawas soils, 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. Map unit 61, Pits, sand and gravel, 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.

10—Beaches

- This map unit occurs as areas of sandy material on the shores along Lake Superior. Onsite investigation is needed to determine the suitability for specific uses.

11C—Deer Park sand, 0 to 10 percent slopes

Setting

Landform: Beach ridges and dunes

Average Map Unit Composition

90 percent Deer Park and similar soils
5 percent Croswell and similar soils
5 percent Kinross and similar soils

Description of Major Components

Deer Park

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; sand
E—3 to 10 inches; sand

Bs—10 to 21 inches; sand
C—21 to 80 inches; sand

Soil Properties and Qualities

Parent material: Eolian deposits
Slope: 0 to 10 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

11E—Deer Park sand, 10 to 25 percent slopes

Setting

Landform: Beach ridges and dunes

Average Map Unit Composition

90 percent Deer Park and similar soils
5 percent Croswell and similar soils
5 percent Kinross and similar soils

Description of Major Components

Deer Park

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; sand
E—3 to 10 inches; sand
Bs—10 to 21 inches; sand
C—21 to 80 inches; sand

Soil Properties and Qualities

Parent material: Eolian deposits
Slope: 10 to 25 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

11F—Deer Park sand, 25 to 60 percent slopes

Setting

Landform: Beach ridges and dunes

Average Map Unit Composition

95 percent Deer Park and similar soils
5 percent Kinross and similar soils

Description of Major Components

Deer Park

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; sand
E—3 to 10 inches; sand
Bs—10 to 21 inches; sand
C—21 to 80 inches; sand

Soil Properties and Qualities

Parent material: Eolian deposits
Slope: 25 to 60 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

12B—Rubicon sand, 0 to 6 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Rubicon and similar soils
5 percent Au Gres and similar soils
5 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

12D—Rubicon sand, 6 to 15 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Rubicon and similar soils
5 percent Au Gres and similar soils
5 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe

Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

12E—Rubicon sand, 15 to 35 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
5 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

13B—Kalkaska sand, 0 to 6 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

85 percent Kalkaska and similar soils
5 percent Deford and similar soils
5 percent Finch and similar soils
5 percent Paquin and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland (fig. 3)
Other uses: Building site development

13D—Kalkaska sand, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

85 percent Kalkaska and similar soils
5 percent Deford and similar soils
5 percent Finch and similar soils
5 percent Paquin and similar soils

Figure 3.—A red pine plantation in an area of Kalkaska sand, 0 to 6 percent slopes. Red pine logs are harvested for use as cabin logs, sawtimber, telephone poles, and plywood.

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe

Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

13E—Kalkaska sand, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

100 percent Kalkaska and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

15A—Croswell sand, 0 to 3 percent slopes

Setting

Landform: Lake plains; outwash plains; dunes; stream terraces

Average Map Unit Composition

90 percent Croswell and similar soils
3 percent Deford and similar soils
3 percent Finch and similar soils
2 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Croswell

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 6 inches; sand
Bs—6 to 15 inches; sand
BC—15 to 22 inches; sand
C—22 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

16A—Paquin sand, 0 to 3 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Paquin and similar soils
3 percent Finch and similar soils
3 percent Garlic and similar soils
2 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Paquin

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 12 inches; sand
Bhs—12 to 14 inches; sand
Bhsm—14 to 17 inches; sand
Bsm—17 to 27 inches; sand
BC—27 to 34 inches; sand
C—34 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 16 inches to ortstein
Drainage class: Moderately well drained
Available water capacity: About 3.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

17A—Au Gres sand, 0 to 3 percent slopes

Setting

Landform: Lake plains; outwash plains

Average Map Unit Composition

90 percent Au Gres and similar soils
3 percent Deford and similar soils
3 percent Paquin and similar soils
2 percent Kinross and similar soils
2 percent Rubicon and similar soils

Description of Major Components

Au Gres

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 17 inches; sand
BC—17 to 28 inches; sand
C—28 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Available water capacity: About 3.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

18—Kinross muck

Setting

Landform: Lake plains; outwash plains

Average Map Unit Composition

90 percent Kinross and similar soils
5 percent Au Gres and similar soils
5 percent Dawson and similar soils

Description of Major Components

Kinross

Typical Profile

Oa—0 to 3 inches; muck
Eg—3 to 14 inches; sand
Bhs—14 to 22 inches; sand
Bs—22 to 35 inches; sand
C—35 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 2 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, October, November, December)

Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

19—Deford muck

Setting

Landform: Depressions on outwash plains and lake plains

Average Map Unit Composition

90 percent Deford and similar soils
5 percent Au Gres and similar soils
3 percent Tawas and similar soils
2 percent Paquin and similar soils

Description of Major Components

Deford

Typical Profile

Oa—0 to 4 inches; muck
C—4 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 2 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 5.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Wildlife habitat

21A—Ingalls sand, 0 to 3 percent slopes

Setting

Landform: Glacial lakes (relict)

Average Map Unit Composition

90 percent Ingalls and similar soils
3 percent Charlevoix and similar soils
3 percent Ensley and similar soils
2 percent Au Gres and similar soils
2 percent Munising and similar soils

Description of Major Components

Ingalls

Typical Profile

Oa—0 to 4 inches; highly decomposed plant material
A—4 to 5 inches; sand
E—5 to 14 inches; sand
Bhs—14 to 16 inches; sand
Bs,Bw—16 to 35 inches; sand
2C—35 to 80 inches; stratified silt loam

Soil Properties and Qualities

Parent material: Glaciofluvial deposits over glaciolacustrine deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Available water capacity: About 9.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

24B—Munising fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

90 percent Munising and similar soils
3 percent Frohling and similar soils
2 percent Abbaye and similar soils
2 percent Gay and similar soils
2 percent Skanee and similar soils
1 percent Paavola and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

25B—Munising-Yalmer complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

55 percent Munising and similar soils
30 percent Yalmer and similar soils
5 percent Frohling and similar soils
4 percent Gay and similar soils
3 percent Skanee and similar soils
2 percent Deford and similar soils
1 percent Garlic and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam

E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Yalmer

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 3 inches; sand
E—3 to 8 inches; loamy sand
Bhs—8 to 11 inches; sand
Bs1,Bs2—11 to 24 inches; fine sand
2E/Bx,2B/Ex—24 to 40 inches; loamy fine sand, fine sandy loam
2Bt—40 to 66 inches; fine sandy loam
2C—66 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.5 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

25D—Munising-Yalmer complex, 6 to 18 percent slopes

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

55 percent Munising and similar soils
30 percent Yalmer and similar soils
5 percent Frohling and similar soils
4 percent Tokiahok and similar soils
2 percent Deford and similar soils
2 percent Gay and similar soils
2 percent Skanee and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.5 feet (April)
Ponding: None

Yalmer

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 3 inches; sand
E—3 to 8 inches; loamy sand
Bhs—8 to 11 inches; sand
Bs1,Bs2—11 to 24 inches; fine sand
2E/Bx,2B/Ex—24 to 40 inches; loamy fine sand, fine sandy loam
2Bt—40 to 66 inches; fine sandy loam
2C—66 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 6 to 18 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.5 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

31D—Trenary silt loam, 6 to 15 percent slopes

Setting

Landform: Recessional moraines; ground moraines

Average Map Unit Composition

85 percent Trenary and similar soils
4 percent Traunik and similar soils
3 percent Steuben and similar soils
2 percent Charlevoix and similar soils
2 percent Ensley and similar soils
2 percent Escanaba and similar soils
2 percent McMillan and similar soils

Description of Major Components

Trenary

Typical Profile

A—0 to 2 inches; silt loam
E—2 to 6 inches; silt loam
Bhs—6 to 12 inches; silt loam
Bs—12 to 17 inches; silt loam
E´—17 to 26 inches; sandy loam
Bt—26 to 37 inches; loam
C—37 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Till
Slope: 6 to 15 percent
Hazard of soil blowing: Slight
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 9.3 inches to a depth of 60 inches

Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

33—Ensley muck

Setting

Landform: Drainageways and depressions on ground moraines

Average Map Unit Composition

90 percent Ensley and similar soils
3 percent Cathro and similar soils
3 percent Deford and similar soils
2 percent Charlevoix and similar soils
2 percent Shoepac and similar soils

Description of Major Components

Ensley

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loam
Bw—7 to 19 inches; fine sandy loam
2C—19 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.3 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

35B—Munising-Yalmer-Frohling complex, calcareous substratum, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

40 percent Munising and similar soils
30 percent Yalmer and similar soils
20 percent Frohling and similar soils
3 percent Ensley and similar soils
3 percent Greylock and similar soils
2 percent Cookson and similar soils
2 percent McMillan and similar soils

Description of Major Components

Munising

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 3 inches; fine sandy loam
Bhs—3 to 6 inches; fine sandy loam
Bs—6 to 23 inches; fine sandy loam
2E/Bx—23 to 38 inches; loamy sand, fine sandy loam
2B/Ex—38 to 50 inches; fine sandy loam, loamy sand
2BC—50 to 63 inches; gravelly fine sandy loam
2C—63 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Yalmer

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; loamy sand
E—2 to 5 inches; sand
Bhs—5 to 16 inches; loamy sand
Bs—16 to 28 inches; gravelly loamy sand
2E/Bx—28 to 36 inches; loamy sand
2B/Ex—36 to 62 inches; fine sandy loam
3C—62 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Outwash over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.5 feet (April)
Ponding: None

Frohling

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 5 inches; fine sandy loam
Bs—5 to 24 inches; fine sandy loam
2E/Bx,2B/Ex—24 to 73 inches; fine sandy loam, loamy fine sand
3C—73 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

37B—Grand Sable fine sand, 1 to 6 percent slopes

Setting

Landform: Kame terraces

Average Map Unit Composition

90 percent Grand Sable and similar soils
2 percent Chabeneau and similar soils
2 percent Cusino and similar soils
2 percent Deerton and similar soils

2 percent Shelldrake and similar soils
2 percent Towes and similar soils

Description of Major Components

Grand Sable

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; fine sand
C1,C2,C3—4 to 30 inches; loamy fine sand
2Eb—30 to 32 inches; sand
2Bsb1,2Bsb2—32 to 43 inches; sand
2BCb,2Cb—43 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy eolian deposits over sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

37E—Grand Sable fine sand, 15 to 35 percent slopes

Setting

Landform: Kame terraces

Average Map Unit Composition

98 percent Grand Sable and similar soils
1 percent Deerton and similar soils
1 percent Halfaday and similar soils

Description of Major Components

Grand Sable

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; fine sand
C1,C2,C3—4 to 30 inches; loamy fine sand
2Eb—30 to 32 inches; sand
2Bsb1,2Bsb2—32 to 43 inches; sand
2BCb,2Cb—43 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy eolian deposits over sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

38B—Rhody-Towes complex, 0 to 4 percent slopes

Setting

Landform: Terraces in glacial drainage channels

Average Map Unit Composition

60 percent Rhody and similar soils
30 percent Towes and similar soils
3 percent Nykanen and similar soils
3 percent Trout Bay and similar soils
2 percent Au Train and similar soils
2 percent Deerton and similar soils

Description of Major Components

Rhody

Typical Profile

A,A/E—0 to 19 inches; silt loam, muck
C1,C2—19 to 36 inches; gravelly sand
3Cr—36 to 41 inches; weathered bedrock
3R—41 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Silty eolian deposits over sandy outwash
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 50 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None

Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Towes

Typical Profile

A1,A2—0 to 19 inches; silt loam
2Bw—19 to 22 inches; gravelly sand
2C—22 to 26 inches; sand
3Cr—26 to 37 inches; weathered bedrock
3R—37 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Silty eolian deposits over sandy outwash
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 20 to 30 inches to paralithic bedrock; 20 to 45 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 4.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 2.2 feet (May)
Ponding: None

Land Use

Dominant land use: Forestland

40B—Waiska cobbly loamy sand, 0 to 6 percent slopes, very stony

Setting

Landform: Outwash plains; stream terraces; benches

Average Map Unit Composition

90 percent Waiska and similar soils
3 percent Cusino and similar soils
3 percent Paavola and similar soils
2 percent Deford and similar soils
2 percent Kalkaska and similar soils

Description of Major Components

Waiska

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; cobbly loamy sand

Bhs—4 to 8 inches; gravelly sand
Bs—8 to 18 inches; very gravelly sand
BC,C—18 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

42—Davies very cobbly muck

Setting

Landform: Glacial drainage channels; kame terraces

Average Map Unit Composition

90 percent Davies and similar soils
5 percent McMaster and similar soils
5 percent Tawas and similar soils

Description of Major Components

Davies

Typical Profile

Oa—0 to 4 inches; very cobbly muck
Bg—4 to 11 inches; very cobbly sandy loam
C1,C2—11 to 80 inches; very cobbly sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None

Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

46—Jacobsville muck, very stony

Setting

Landform: Benches; ground moraines

Average Map Unit Composition

90 percent Jacobsville and similar soils
3 percent Gay and similar soils
3 percent Munising and similar soils
2 percent Chocolay and similar soils
2 percent Zeba and similar soils

Description of Major Components

Jacobsville

Typical Profile

Oa—0 to 5 inches; muck
E—5 to 9 inches; sandy loam
Bw—9 to 23 inches; sandy loam
C—23 to 36 inches; sandy loam
2R—36 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 2 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 6.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)*Months in which ponding does not occur:* January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

47C—Deerton-Au Train complex, 1 to 15 percent slopes

Setting

Landform: Moraines; benches

Average Map Unit Composition

55 percent Deerton and similar soils
30 percent Au Train and similar soils
5 percent Abbaye and similar soils
5 percent Jeske and similar soils
3 percent Gongeau and similar soils
2 percent Trout Bay and similar soils

Description of Major Components

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 4 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Au Train

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 9 inches; coarse sand
Bhs—9 to 14 inches; coarse sand
Cr—14 to 32 inches; weathered bedrock
R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 1 to 12 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible

Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 1.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, November)
Ponding: None

Land Use

Dominant land use: Forestland

47E—Deerton-Au Train complex, 6 to 35 percent slopes

Setting

Landform: Moraines

Average Map Unit Composition

55 percent Deerton and similar soils
30 percent Au Train and similar soils
4 percent Abbaye and similar soils
4 percent Gongeau and similar soils
4 percent Jeske and similar soils
3 percent Trout Bay and similar soils

Description of Major Components

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 6 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Au Train

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 9 inches; coarse sand
Bhs—9 to 14 inches; coarse sand
Cr—14 to 32 inches; weathered bedrock
R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 6 to 18 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 1.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, November)
Ponding: None

Land Use

Dominant land use: Forestland

48—Burt muck

Setting

Landform: Depressions and drainageways on ground moraines

Average Map Unit Composition

90 percent Burt and similar soils
3 percent Sauxhead and similar soils
3 percent Skandia and similar soils
2 percent Jacobsville and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Burt

Typical Profile

Oa—0 to 1 inch; muck
A—1 to 5 inches; mucky sand
Cg,C—5 to 19 inches; sand
2R—19 inches; bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 2 percent
Hazard of soil blowing: Slight

Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 1.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

49B—Cookson fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

90 percent Cookson and similar soils
5 percent Chatham and similar soils
3 percent Trenary and similar soils
2 percent Reade and similar soils

Description of Major Components

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam
2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Coarse-loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

51—Nahma-Ruse complex

Setting

Landform: Depressions on ground moraines

Average Map Unit Composition

50 percent Nahma and similar soils
40 percent Ruse and similar soils
5 percent Chippeny and similar soils
3 percent Ensign and similar soils
2 percent Nykanen and similar soils

Description of Major Components

Nahma

Typical Profile

Oa—0 to 9 inches; muck
Bg—9 to 14 inches; fine sandy loam
Bw1—14 to 19 inches; fine sandy loam
Bw2—19 to 22 inches; fine sandy loam
2BC—22 to 25 inches; fine sandy loam
2C—25 to 30 inches; fine sandy loam
3R—30 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Ruse

Typical Profile

A—0 to 7 inches; mucky silt loam
Bg—7 to 11 inches; fine sandy loam

Bw—11 to 15 inches; fine sandy loam
R—15 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 2.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

52B—Summerville fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

85 percent Summerville and similar soils
4 percent Longrie and similar soils
3 percent Ensign and similar soils
3 percent Ruse and similar soils
3 percent Traunik and similar soils
2 percent Namur and similar soils

Description of Major Components

Summerville

Typical Profile

A—0 to 3 inches; fine sandy loam
Bw1,Bw2—3 to 13 inches; fine sandy loam
2R—13 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained
Available water capacity: About 2.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

57—Carbondale, Lupton, and Tawas soils

Setting

Landform: Ground moraines; lake plains; outwash plains

Average Map Unit Composition

0 to 100 percent Carbondale and similar soils
0 to 100 percent Lupton and similar soils
0 to 100 percent Tawas and similar soils
0 to 5 percent Deford and similar soils
0 to 4 percent Paquin and similar soils
0 to 1 percent Kalkaska and similar soils

Description of Major Components

Carbondale

Typical Profile

Oa—0 to 38 inches; muck
Oe—38 to 80 inches; mucky peat

Soil Properties and Qualities

Parent material: Herbaceous material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 26.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Lupton

Typical Profile

Oi—0 to 4 inches; peat
Oa—4 to 80 inches; muck

Soil Properties and Qualities

Parent material: Woody material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 24.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Tawas

Typical Profile

Oa—0 to 26 inches; muck
2C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Woody material over drift
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 13.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

58—Dawson, Greenwood, and Loxley soils

Setting

Landform: Lake plains; outwash plains; ground moraines

Average Map Unit Composition

0 to 100 percent Dawson and similar soils
0 to 100 percent Greenwood and similar soils
0 to 100 percent Loxley and similar soils
0 to 5 percent Spot and similar soils
0 to 4 percent Finch and similar soils
0 to 1 percent Paquin and similar soils

Description of Major Components

Dawson

Typical Profile

Oi—0 to 10 inches; peat
Oe—10 to 19 inches; mucky peat
Oa—19 to 38 inches; muck
C—38 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Herbaceous material over sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 19.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, September, October, November, December)
Depth and months of deepest ponding: 0.5 foot (April, May)
Months in which ponding does not occur: July, August, September

Greenwood

Typical Profile

Oe—0 to 65 inches; mucky peat
Oa—65 to 80 inches; muck

Soil Properties and Qualities

Parent material: Herbaceous material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 29.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, September, October, November, December)

Depth and months of deepest ponding: 0.5 foot (April, May)
Months in which ponding does not occur: July, August, September

Loxley

Typical Profile

Oi—0 to 8 inches; peat
Oa—8 to 80 inches; muck

Soil Properties and Qualities

Parent material: Herbaceous material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 25.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, September, October, November, December)
Depth and months of deepest ponding: 0.5 foot (April, May, November)
Months in which ponding does not occur: July, August, September

Land Use

Dominant land use: Wildlife habitat

59—Chippeny-Nahma mucks

Setting

Landform: Depressions on ground moraines, till plains, and benches and in glacial drainage channels

Average Map Unit Composition

55 percent Chippeny and similar soils
30 percent Nahma and similar soils
5 percent Carbondale and similar soils
5 percent Ruse and similar soils
3 percent Ensign and similar soils
2 percent Nykanen and similar soils

Description of Major Components

Chippeny

Typical Profile

Oa—0 to 20 inches; muck
2Cg—20 to 28 inches; silty clay loam
3R—28 inches; bedrock

Soil Properties and Qualities

Parent material: Woody material
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 9.6 inches to a depth of 60 inches
Shrink-swell potential: High
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Nahma

Typical Profile

Oa—0 to 9 inches; muck
Bg—9 to 14 inches; fine sandy loam
Bw1—14 to 19 inches; fine sandy loam
Bw2—19 to 22 inches; fine sandy loam
2BC—22 to 25 inches; fine sandy loam
2C—25 to 30 inches; fine sandy loam
3R—30 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Cropland
Other uses: Forestland

60—Histosols and Aquents, ponded

Average Map Unit Composition

0 to 100 percent Histosols and similar soils
0 to 100 percent Aquents and similar soils

Description of Major Components

Histosols

Typical Profile

Oa1—0 to 51 inches; muck
Oa2—51 to 80 inches; variable

Soil Properties and Qualities

Parent material: Organic material
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Shrink-swell potential: Not estimated
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: At the surface (all year)
Ponding depth: 1 foot (all year)

Aquents

Typical Profile

C—0 to 80 inches; variable

Soil Properties and Qualities

Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Shrink-swell potential: Not estimated
Permeability: Moderately slow or moderate
Flooding: None
Depth to seasonal high water table: At the surface (all year)
Ponding depth: 1 foot (all year)

61—Pits, sand and gravel

- This map unit consists of areas from which sand and gravel have been removed. Onsite investigation is needed to determine the suitability for specific uses.

62F—Udipsamments and Udorthents, nearly level to very steep

Average Map Unit Composition

0 to 100 percent Udipsamments
0 to 100 percent Udorthents

Land Use

Onsite investigation is needed to determine the suitability for specific uses.

64B—Kiva fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Kiva and similar soils
4 percent Islandlake and similar soils
2 percent Davies and similar soils
2 percent Fence and similar soils
2 percent McMaster and similar soils

Description of Major Components

Kiva

Typical Profile

A—0 to 3 inches; fine sandy loam
E—3 to 6 inches; loamy sand
Bs1—6 to 15 inches; fine sandy loam
2Bs2—15 to 23 inches; gravelly loamy sand
2BC,2C—23 to 80 inches; stratified sand to very gravelly sand to gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

64D—Kiva fine sandy loam, 6 to 15 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Kiva and similar soils
3 percent Islandlake and similar soils
3 percent Kalkaska and similar soils
2 percent McMaster and similar soils
2 percent Steuben and similar soils

Description of Major Components

Kiva

Typical Profile

A—0 to 3 inches; fine sandy loam
E—3 to 6 inches; loamy sand
Bs1—6 to 15 inches; fine sandy loam
2Bs2—15 to 23 inches; gravelly loamy sand
2BC,2C—23 to 80 inches; stratified sand to very gravelly sand to gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

65D—Jeske-Gongeau-Deerton complex, bedrock terrace, 1 to 20 percent slopes

Setting

Landform: Moraines

Average Map Unit Composition

45 percent Jeske and similar soils
25 percent Gongeau and similar soils
20 percent Deerton and similar soils
5 percent Au Train and similar soils

3 percent Abbaye and similar soils
2 percent Trout Bay and similar soils

Description of Major Components

Jeske

Typical Profile

Oe,Oa—0 to 3 inches; highly decomposed plant material
C1,C2—3 to 21 inches; sand
2Cr—21 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 1 to 10 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 23 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (April)
Ponding: None

Gongeau

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loamy sand
2C—7 to 18 inches; sand
2Cr—18 to 29 inches; weathered bedrock
2R—29 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 1 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 30 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)

Months in which ponding does not occur: January, February, June, July, August, September, December

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 6 to 20 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

65F—Jeske-Gongeau-Deerton complex, bedrock terrace, 1 to 45 percent slopes

Setting

Landform: Moraines

Average Map Unit Composition

45 percent Jeske and similar soils
25 percent Gongeau and similar soils
20 percent Deerton and similar soils
5 percent Au Train and similar soils
3 percent Abbaye and similar soils
2 percent Trout Bay and similar soils

Description of Major Components

Jeske

Typical Profile

Oe,Oa—0 to 3 inches; highly decomposed plant material
C1,C2—3 to 21 inches; sand

2Cr—21 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 1 to 10 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 23 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (April)
Ponding: None

Gongeau

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loamy sand
2C—7 to 18 inches; sand
2Cr—18 to 29 inches; weathered bedrock
2R—29 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 1 to 8 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 30 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand

2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 6 to 45 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

66D—Ruse-Ensign-Nykanen complex, bedrock terrace, 1 to 20 percent slopes

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

40 percent Ruse and similar soils
30 percent Ensign and similar soils
20 percent Nykanen and similar soils
4 percent Summerville and similar soils
3 percent Chippeny and similar soils
3 percent Eben and similar soils

Description of Major Components

Ruse

Typical Profile

Ap—0 to 10 inches; mucky silt loam
AC—10 to 13 inches; silt loam
2Cr—13 to 19 inches; weathered bedrock
2R—19 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 1 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock

Drainage class: Poorly drained
Available water capacity: About 3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Ensign

Typical Profile

Ap—0 to 10 inches; very fine sandy loam
BA—10 to 14 inches; very fine sandy loam
2Cr—14 to 18 inches; weathered bedrock
2R—18 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.2 feet (May)
Ponding: None

Nykanen

Typical Profile

A—0 to 4 inches; very fine sandy loam
BA—4 to 14 inches; very fine sandy loam
2Cr—14 to 25 inches; weathered bedrock
2R—25 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 6 to 20 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 32 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2.4 inches to a depth of 60 inches
Shrink-swell potential: Low

Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.2 feet (April, July, October)
Ponding: None

Land Use

Dominant land use: Forestland

66F—Ruse-Ensign-Nykanen complex, bedrock terrace, 1 to 45 percent slopes

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

40 percent Ruse and similar soils
30 percent Ensign and similar soils
20 percent Nykanen and similar soils
3 percent Namur and similar soils
3 percent Summerville and similar soils
2 percent Chippeny and similar soils
2 percent Deerton and similar soils

Description of Major Components

Ruse

Typical Profile

Ap—0 to 10 inches; mucky silt loam
AC—10 to 13 inches; silt loam
2Cr—13 to 19 inches; weathered bedrock
2R—19 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 1 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Ensign

Typical Profile

Ap—0 to 10 inches; very fine sandy loam
BA—10 to 14 inches; very fine sandy loam
2Cr—14 to 18 inches; weathered bedrock
2R—18 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.2 feet (May)
Ponding: None

Nykanen

Typical Profile

A—0 to 4 inches; very fine sandy loam
BA—4 to 14 inches; very fine sandy loam
2Cr—14 to 25 inches; weathered bedrock
2R—25 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy outwash
Slope: 6 to 45 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 32 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.2 feet (April, July, October)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

68—Pits, quarry

- This map unit consists of areas from which material has been removed for use in construction. Onsite investigation is needed to determine the suitability for specific uses.

69B—Escanaba sand, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

85 percent Escanaba and similar soils
5 percent Blue Lake and similar soils
5 percent Yalmer and similar soils
3 percent Greylock and similar soils
2 percent Kalkaska and similar soils

Description of Major Components

Escanaba

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sand
E—3 to 6 inches; loamy fine sand
Bs1,Bs2—6 to 26 inches; loamy fine sand
2E/B—26 to 35 inches; fine sandy loam
2Bt—35 to 42 inches; fine sandy loam
2C—42 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

71A—Evart-Sturgeon silt loams, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Average Map Unit Composition

70 percent Evart and similar soils
20 percent Sturgeon and similar soils
5 percent Pelkie and similar soils
5 percent Tawas and similar soils

Description of Major Components

Evart

Typical Profile

A1—0 to 10 inches; silt loam
A2—10 to 18 inches; loamy fine sand
Cg1,Cg2—18 to 80 inches; sand

Soil Properties and Qualities

Parent material: Alluvium
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 5.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Frequency of flooding: Frequent (April, May)
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Sturgeon

Typical Profile

A—0 to 6 inches; silt loam
Bw—6 to 16 inches; silt loam
2C1,2C2—16 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Alluvium
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High

Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Available water capacity: About 6.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Frequency of flooding: Frequent (April, May)
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

72E—Deerton-Tokiahok-Trout Bay complex, 8 to 35 percent slopes, dissected

Setting

Landform: Moraines

Average Map Unit Composition

40 percent Deerton and similar soils
30 percent Tokiahok and similar soils
15 percent Trout Bay and similar soils
3 percent Au Train and similar soils
3 percent Frohling and similar soils
3 percent Gongeau and similar soils
2 percent Abbaye and similar soils
2 percent Jeske and similar soils
2 percent Munising and similar soils

Description of Major Components

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 8 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Tokiahok

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 11 inches; loamy fine sand
Bhs—11 to 15 inches; loamy fine sand
Bs—15 to 24 inches; loamy fine sand
2E/Bx,2B/Ex—24 to 59 inches; sandy loam
2BC,2C—59 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 8 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Trout Bay

Typical Profile

Oa—0 to 19 inches; muck
2Cr—19 to 34 inches; weathered bedrock
2R—34 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Herbaceous and woody material
Slope: 8 to 25 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 17 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Ponding: None

Land Use

Dominant land use: Forestland

72F—Deerton-Tokiahok-Trout Bay complex, 15 to 70 percent slopes, dissected

Setting

Landform: Moraines

Average Map Unit Composition

40 percent Deerton and similar soils
25 percent Tokiahok and similar soils
20 percent Trout Bay and similar soils
3 percent Frohling and similar soils
3 percent Gongeau and similar soils
3 percent Jeske and similar soils
2 percent Abbaye and similar soils
2 percent Au Train and similar soils
2 percent Munising and similar soils

Description of Major Components

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 15 to 70 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Tokiahok

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 11 inches; loamy fine sand
Bhs—11 to 15 inches; loamy fine sand
Bs—15 to 24 inches; loamy fine sand
2E/Bx,2B/Ex—24 to 59 inches; sandy loam
2BC,2C—59 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 15 to 70 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Trout Bay

Typical Profile

Oa—0 to 19 inches; muck
2Cr—19 to 34 inches; weathered bedrock
2R—34 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Herbaceous and woody material
Slope: 15 to 25 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 17 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Ponding: None

Land Use

Dominant land use: Forestland

76C—Garlic-Blue Lake-Voelker complex, 1 to 12 percent slopes, dissected

Setting

Landform: Disintegration moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
3 percent Fence and similar soils

2 percent Deford and similar soils
2 percent Munising and similar soils
2 percent Paquin and similar soils
1 percent Steuben and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 1 to 12 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 1 to 12 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

76E—Garlic-Blue Lake-Voelker complex, 8 to 35 percent slopes, dissected

Setting

Landform: Disintegration moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
3 percent Fence and similar soils
3 percent Steuben and similar soils
2 percent Alcona and similar soils
2 percent Deford and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand

BC—20 to 29 inches; sand
C1,C2—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 8 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 8 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 8 to 35 percent

Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

76F—Garlic-Blue Lake-Voelker complex, 15 to 60 percent slopes, dissected

Setting

Landform: Disintegration moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
4 percent Steuben and similar soils
3 percent Sporley and similar soils
2 percent Deford and similar soils
1 percent Paquin and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C1,C2—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 15 to 60 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 15 to 60 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 15 to 60 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

77B—Garlic-Blue Lake-Voelker complex, 1 to 6 percent slopes

Setting

Landform: Disintegration moraines; ground moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
4 percent Alcona and similar soils
3 percent McMillan and similar soils
2 percent Deford and similar soils
1 percent Paquin and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate

Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

77D—Garlic-Blue Lake-Voelker complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; ground moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
3 percent Alcona and similar soils
3 percent McMillan and similar soils

2 percent Deford and similar soils
2 percent Paquin and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

77E—Garlic-Blue Lake-Voelker complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; ground moraines

Average Map Unit Composition

40 percent Garlic and similar soils
30 percent Blue Lake and similar soils
20 percent Voelker and similar soils
4 percent Alcona and similar soils
3 percent McMillan and similar soils
2 percent Deford and similar soils
1 percent Paquin and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand

BC—20 to 29 inches; sand
C1,C2—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Voelker

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; fine sand
E—5 to 11 inches; fine sand
Bhs—11 to 15 inches; fine sand
Bhsm—15 to 31 inches; fine sand
2E/B—31 to 39 inches; loamy very fine sand
2C1,2C2—39 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lacustrine deposits
Slope: 15 to 35 percent

Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to ortstein
Drainage class: Well drained
Available water capacity: About 6.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

88—Cathro-Ensley mucks

Setting

Landform: Depressions and drainageways on ground moraines

Average Map Unit Composition

55 percent Cathro and similar soils
35 percent Ensley and similar soils
4 percent Charlevoix and similar soils
2 percent Nahma and similar soils
2 percent Shoepac and similar soils
2 percent Trenary and similar soils

Description of Major Components

Cathro

Typical Profile

Oa1,Oa2,Oa3—0 to 34 inches; muck
C1,C2—34 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Woody material over lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 16.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Ensley

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loam
Bw—7 to 19 inches; fine sandy loam
2C—19 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.3 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

93—Tawas-Deford mucks

Setting

Landform: Depressions and drainageways on moraines and outwash plains

Average Map Unit Composition

70 percent Tawas and similar soils
20 percent Deford and similar soils
5 percent Au Gres and similar soils
3 percent Halfaday and similar soils
2 percent Kalkaska and similar soils

Description of Major Components

Tawas

Typical Profile

Oa—0 to 26 inches; muck
2C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Woody organic material over sandy outwash
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate

Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 13.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Deford

Typical Profile

Oa—0 to 4 inches; muck
C—4 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 5.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

95B—Liminga fine sand, 0 to 6 percent slopes

Setting

Landform: Dunes; ground moraines; outwash plains

Average Map Unit Composition

90 percent Liminga and similar soils
5 percent Alcona and similar soils
5 percent Wainola and similar soils

Description of Major Components

Liminga

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 7 inches; fine sand
Bhs—7 to 9 inches; fine sand
Bs—9 to 22 inches; fine sand
BC—22 to 31 inches; fine sand
C—31 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

104C—Fence very fine sandy loam, 1 to 12 percent slopes, dissected

Setting

Landform: Lake plains

Average Map Unit Composition

90 percent Fence and similar soils
4 percent Shag and similar soils
4 percent Sporley and similar soils
2 percent Spear and similar soils

Description of Major Components

Fence

Typical Profile

A—0 to 3 inches; very fine sandy loam
E—3 to 7 inches; very fine sandy loam
Bhs—7 to 11 inches; very fine sandy loam
Bs,Bw—11 to 19 inches; very fine sandy loam
B/E—19 to 42 inches; silt loam
2C1,2C2—42 to 80 inches; stratified very fine sand to loamy very fine sand to very fine sandy loam to silty clay loam to silt loam

Soil Properties and Qualities

Parent material: Stratified coarse-silty glaciolacustrine deposits
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 11.3 inches to a depth of 60 inches
Shrink-swell potential: High
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 1.5 to 6.7 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

109D—Rousseau-Dawson complex, 0 to 15 percent slopes

Setting

Landform: Beach ridges and dunes

Average Map Unit Composition

50 percent Rousseau and similar soils
45 percent Dawson and similar soils
5 percent Au Gres and similar soils

Description of Major Components

Rousseau

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
E—1 to 4 inches; fine sand
Bs—4 to 20 inches; fine sand
BC—20 to 33 inches; fine sand
C1—33 to 66 inches; fine sand
C2—66 to 80 inches; sand

Soil Properties and Qualities

Parent material: Eolian deposits
Slope: 2 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Dawson

Typical Profile

Oi—0 to 10 inches; peat
Oe—10 to 19 inches; mucky peat
Oa—19 to 38 inches; muck
C—38 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Herbaceous material over sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 19.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, September, October, November, December)
Depth and months of deepest ponding: 0.5 foot (April, May)
Months in which ponding does not occur: July, August, September

Land Use

Dominant land use: Forestland

109F—Rousseau-Dawson complex, 0 to 60 percent slopes

Setting

Landform: Dunes

Average Map Unit Composition

55 percent Rousseau and similar soils
40 percent Dawson and similar soils
5 percent Au Gres and similar soils

Description of Major Components

Rousseau

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
E—1 to 4 inches; fine sand
Bs—4 to 20 inches; fine sand
BC—20 to 33 inches; fine sand
C1—33 to 66 inches; fine sand
C2—66 to 80 inches; sand

Soil Properties and Qualities

Parent material: Eolian deposits
Slope: 2 to 60 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Dawson

Typical Profile

Oi—0 to 10 inches; peat
Oe—10 to 19 inches; mucky peat
Oa—19 to 38 inches; muck
C—38 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Herbaceous material over sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 19.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, September, October, November, December)
Depth and months of deepest ponding: 0.5 foot (April, May)
Months in which ponding does not occur: July, August, September

Land Use

Dominant land use: Forestland

125B—Stutts-Kalkaska complex, 0 to 6 percent slopes

Setting

Landform: Kame terraces; disintegration moraines; outwash plains

Average Map Unit Composition

50 percent Stutts and similar soils
45 percent Kalkaska and similar soils
2 percent Greenwood and similar soils

2 percent Kinross and similar soils
1 percent Deerton and similar soils

Description of Major Components

Stutts

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
AE—1 to 2 inches; loamy fine sand
E—2 to 6 inches; loamy fine sand
Bhs—6 to 7 inches; loamy fine sand
Bs1—7 to 11 inches; fine sand
Bs2—11 to 25 inches; fine sand
C—25 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

125D—Stutts-Kalkaska complex, 6 to 15 percent slopes

Setting

Landform: Kame terraces; disintegration moraines; outwash plains

Average Map Unit Composition

50 percent Stutts and similar soils
45 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Greenwood and similar soils

Description of Major Components

Stutts

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
AE—1 to 2 inches; loamy fine sand
E—2 to 6 inches; loamy fine sand
Bhs—6 to 7 inches; loamy fine sand
Bs1—7 to 11 inches; fine sand
Bs2—11 to 25 inches; fine sand
C—25 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 6 to 15 percent

Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

125E—Stutts-Kalkaska complex, 15 to 35 percent slopes

Setting

Landform: Kame terraces; disintegration moraines; outwash plains

Average Map Unit Composition

50 percent Stutts and similar soils
45 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Greenwood and similar soils

Description of Major Components

Stutts

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
AE—1 to 2 inches; loamy fine sand
E—2 to 6 inches; loamy fine sand
Bhs—6 to 7 inches; loamy fine sand
Bs1—7 to 11 inches; fine sand
Bs2—11 to 25 inches; fine sand
C—25 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

135B—Munising, calcareous substratum-Ensley complex, 0 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

65 percent Munising and similar soils
25 percent Ensley and similar soils
4 percent Frohling and similar soils
2 percent Charlevoix and similar soils
2 percent Escanaba and similar soils
2 percent Steuben and similar soils

Description of Major Components

Munising

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 3 inches; fine sandy loam
Bhs—3 to 6 inches; fine sandy loam
Bs—6 to 23 inches; fine sandy loam
2E/Bx—23 to 38 inches; loamy sand, fine sandy loam
2B/Ex—38 to 50 inches; fine sandy loam, loamy sand

2BC—50 to 63 inches; gravelly fine sandy loam
2C—63 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Ensley

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loam
Bw—7 to 19 inches; fine sandy loam
2C—19 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.3 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

145C—Munising-Yalmer complex, 1 to 12 percent slopes, dissected, very stony

Setting

Landform: End moraines

Average Map Unit Composition

50 percent Munising and similar soils
35 percent Yalmer and similar soils
6 percent Frohling and similar soils
3 percent Gay and similar soils
2 percent Abbaye and similar soils
2 percent Paavola and similar soils
2 percent Skanee and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Yalmer

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 3 inches; loamy sand
E—3 to 8 inches; loamy sand
Bhs—8 to 11 inches; sand
Bs1,Bs2—11 to 24 inches; fine sand
2E/Bx,2B/Ex—24 to 40 inches; fine sandy loam, loamy fine sand
2Bt—40 to 66 inches; fine sandy loam
2C—66 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low

Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

146B—Munising-Skanee complex, 0 to 6 percent slopes, stony

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

60 percent Munising and similar soils
30 percent Skanee and similar soils
5 percent Frohling and similar soils
3 percent Gay and similar soils
2 percent Abbaye and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 26 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Skanee

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; fine sandy loam
Bhs—8 to 14 inches; fine sandy loam
E/Bx—14 to 31 inches; fine sandy loam
Bt—31 to 42 inches; sandy clay loam
C—42 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 12 to 20 inches to a fragipan
Drainage class: Somewhat poorly drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.2 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

147A—Skanee-Gay complex, 0 to 3 percent slopes, very stony

Setting

Landform: Moraines

Average Map Unit Composition

55 percent Skanee and similar soils
35 percent Gay and similar soils
4 percent Munising and similar soils
2 percent Assinins and similar soils
2 percent Cathro and similar soils
2 percent Yalmer and similar soils

Description of Major Components

Skanee

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; fine sandy loam
Bhs—8 to 14 inches; fine sandy loam
E/Bx—14 to 31 inches; fine sandy loam
Bt—31 to 42 inches; sandy clay loam
C—42 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 12 to 20 inches to a fragipan
Drainage class: Somewhat poorly drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.2 feet (April, May)
Ponding: None

Gay

Typical Profile

Oa—0 to 4 inches; muck
A—4 to 7 inches; fine sandy loam
Eg—7 to 11 inches; sandy loam
Bw—11 to 16 inches; sandy loam
BC,C—16 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

148B—Shoepac-Ensley complex, 0 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

70 percent Shoepac and similar soils
20 percent Ensley and similar soils

3 percent Trenary and similar soils
2 percent Cathro and similar soils
2 percent Charlevoix and similar soils
2 percent Traunik and similar soils
1 percent Escanaba and similar soils

Description of Major Components

Shoepac

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 6 inches; silt loam
Bs1—6 to 12 inches; fine sandy loam
Bs2—12 to 23 inches; loamy sand
E/B—23 to 33 inches; loamy sand, fine sandy loam
Bt—33 to 53 inches; fine sandy loam
C—53 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 1.5 to 6.7 feet (April)
Ponding: None

Ensley

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loam
Bw—7 to 19 inches; fine sandy loam
2C—19 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.3 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, November, December)

Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

155A—Zeba-Jacobsville complex, 0 to 3 percent slopes, very stony

Setting

Landform: Benches and flats on moraines

Average Map Unit Composition

55 percent Zeba and similar soils
30 percent Jacobsville and similar soils
4 percent Gay and similar soils
3 percent Chocolay and similar soils
3 percent Skandia and similar soils
3 percent Skanee and similar soils
2 percent Paavola and similar soils

Description of Major Components

Zeba

Typical Profile

A—0 to 2 inches; cobbly fine sandy loam
E—2 to 5 inches; cobbly fine sandy loam
Bs—5 to 13 inches; cobbly fine sandy loam
E´,B/E—13 to 33 inches; sandy loam
2R—33 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy drift
Slope: 0 to 3 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 4.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 to 2.8 feet (May)
Ponding: None

Jacobsville

Typical Profile

Oa—0 to 5 inches; muck
E—5 to 9 inches; sandy loam

Bw—9 to 23 inches; sandy loam
C—23 to 36 inches; sandy loam
2R—36 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 6.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

157B—Reade-Nahma complex, 0 to 6 percent slopes, stony

Setting

Landform: Ground moraines

Average Map Unit Composition

45 percent Reade and similar soils
40 percent Nahma and similar soils
5 percent Ensign and similar soils
3 percent Cookson and similar soils
3 percent Shoepac and similar soils
2 percent Nykanen and similar soils
2 percent Summerville and similar soils

Description of Major Components

Reade

Typical Profile

Oa—0 to 4 inches; highly decomposed plant material
E—4 to 7 inches; silt loam
Bhs—7 to 9 inches; loam
Bs1,Bs2—9 to 15 inches; fine sandy loam
2B/E—15 to 20 inches; fine sandy loam
2BC—20 to 28 inches; gravelly fine sandy loam
3R—28 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, July, October)
Ponding: None

Nahma

Typical Profile

Oa—0 to 9 inches; muck
Bg—9 to 14 inches; fine sandy loam
Bw1—14 to 19 inches; fine sandy loam
Bw2—19 to 22 inches; fine sandy loam
2BC—22 to 25 inches; fine sandy loam
2C—25 to 30 inches; sandy loam
3R—30 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

158C—Munising-Abbaye fine sandy loams, 1 to 12 percent slopes, dissected, stony

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

50 percent Munising and similar soils
35 percent Abbaye and similar soils
5 percent Frohling and similar soils
3 percent Jacobsville and similar soils
3 percent Zeba and similar soils
2 percent Skanee and similar soils
2 percent Yalmer and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; fine sandy loam
Bs—14 to 22 inches; fine sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Abbaye

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 4 inches; fine sandy loam
E—4 to 13 inches; loamy sand
Bs1,Bs2—13 to 25 inches; sandy loam
B/E—25 to 32 inches; loamy sand, sandy loam
2R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Moderately well drained
Available water capacity: About 4.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, October)
Ponding: None

Land Use

Dominant land use: Forestland

160B—Paquin-Finch sands, 0 to 6 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

50 percent Paquin and similar soils
40 percent Finch and similar soils
5 percent Spot and similar soils
5 percent Wallace and similar soils

Description of Major Components

Paquin

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 12 inches; sand
Bhs—12 to 14 inches; sand
Bhsm—14 to 17 inches; sand
Bsm—17 to 27 inches; sand
BC—27 to 34 inches; sand
C—34 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 16 inches to ortstein
Drainage class: Moderately well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Finch

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 11 inches; sand

Bsm—11 to 42 inches; sand
C—42 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 7 to 13 inches to ortstein
Drainage class: Somewhat poorly drained
Available water capacity: About 2.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

161B—Yellowdog-Buckroe complex, 0 to 6 percent slopes, stony

Setting

Landform: Beaches on benches

Average Map Unit Composition

50 percent Yellowdog and similar soils
40 percent Buckroe and similar soils
3 percent Sauxhead and similar soils
3 percent Waiska and similar soils
2 percent Burt and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Yellowdog

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
Bw1,Bw2—2 to 32 inches; very channery sand
2R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Channery beach sand
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 0.3 inch to a depth of 60 inches
Shrink-swell potential: Low

Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Buckroe

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
Bw1—2 to 4 inches; very channery loamy sand
Bw2—4 to 15 inches; very channery sand
2R—15 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Channery beach sand
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 0.4 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

165B—Chocolay-Waiska complex, 1 to 6 percent slopes, very stony

Setting

Landform: Benches

Average Map Unit Composition

55 percent Chocolay and similar soils
30 percent Waiska and similar soils
4 percent Paavola and similar soils
4 percent Sauxhead and similar soils
3 percent Shelterbay and similar soils
2 percent Chabeneau and similar soils
2 percent Jacobsville and similar soils

Description of Major Components

Chocolay

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; very stony fine sandy loam
E—3 to 8 inches; very stony fine sandy loam

Bhs—8 to 14 inches; very stony fine sandy loam
Bs—14 to 27 inches; very gravelly sandy loam
2R—27 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, October)
Ponding: None

Waiska

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; cobbly loamy sand
Bhs—4 to 8 inches; gravelly sand
Bs—8 to 18 inches; very gravelly sand
BC,C—18 to 80 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

166—Skandia mucky peat

Setting

Landform: Depressions and drainageways on moraines

Average Map Unit Composition

95 percent Skandia and similar soils
2 percent Jacobsville and similar soils

2 percent Sauxhead and similar soils
1 percent Burt and similar soils

Description of Major Components

Skandia

Typical Profile

Oe—0 to 4 inches; mucky peat
Oa—4 to 26 inches; muck
2Cr—26 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Woody material; herbaceous material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 16 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 10.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

167—Skandia-Jacobsville complex, stony

Setting

Landform: Depressions and drainageways on moraines

Average Map Unit Composition

55 percent Skandia and similar soils
35 percent Jacobsville and similar soils
3 percent Chocolay and similar soils
3 percent Sauxhead and similar soils
2 percent Levasseur and similar soils
2 percent Zeba and similar soils

Description of Major Components

Skandia

Typical Profile

Oe—0 to 4 inches; mucky peat
Oa—4 to 26 inches; muck

2Cr—26 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Woody material; herbaceous material
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 16 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 10.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Jacobsville

Typical Profile

Oa—0 to 5 inches; muck
E—5 to 9 inches; sandy loam
Bw—9 to 23 inches; sandy loam
C—23 to 36 inches; sandy loam
2R—36 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 6.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

170B—Chocolay very stony fine sandy loam, 1 to 6 percent slopes, very stony

Setting

Landform: Benches

Average Map Unit Composition

90 percent Chocolay and similar soils
3 percent Paavola and similar soils
2 percent Jacobsville and similar soils
2 percent Munising and similar soils
2 percent Zeba and similar soils
1 percent Skandia and similar soils

Description of Major Components

Chocolay

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; very stony fine sandy loam
E—3 to 8 inches; very stony fine sandy loam
Bhs—8 to 14 inches; very stony fine sandy loam
Bs—14 to 27 inches; very gravelly sandy loam
2R—27 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, October)
Ponding: None

Land Use

Dominant land use: Forestland

171B—Paavola very gravelly loamy sand, 0 to 6 percent slopes, very stony

Setting

Landform: Moraines

Average Map Unit Composition

90 percent Paavola and similar soils
3 percent Chabeneau and similar soils

3 percent Gay and similar soils
2 percent Chocolay and similar soils
2 percent Skanee and similar soils

Description of Major Components

Paavola

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
A—2 to 6 inches; very gravelly loamy sand
Bhs—6 to 15 inches; extremely gravelly loamy coarse sand
Bs—15 to 31 inches; extremely gravelly coarse sand
2(E/B)x,2Btx—31 to 59 inches; gravelly sandy loam
2Cd—59 to 80 inches; gravelly sandy loam

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash over loamy lodgment till
Slope: 0 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 19 to 38 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 1.8 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.6 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

172D—Buckroe-Rock outcrop complex, 6 to 25 percent slopes, very bouldery

Setting

Landform: Benches

Average Map Unit Composition

70 percent Buckroe and similar soils
15 percent Rock outcrop
8 percent Jacobsville and similar soils
3 percent Sauxhead and similar soils
2 percent Chocolay and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Buckroe

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
Bw1—2 to 4 inches; very channery loamy sand

Bw2—4 to 15 inches; very channery sand
2R—15 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Channery sandy glaciofluvial deposits
Slope: 6 to 25 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 0.4 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

172F—Buckroe-Rock outcrop complex, 25 to 70 percent slopes, very bouldery

Setting

Landform: Benches

Average Map Unit Composition

70 percent Buckroe and similar soils
15 percent Rock outcrop
8 percent Jacobsville and similar soils
3 percent Sauxhead and similar soils
2 percent Chocolay and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Buckroe

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
Bw1—2 to 4 inches; very channery loamy sand
Bw2—4 to 15 inches; very channery sand
2R—15 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Channery sandy glaciofluvial deposits
Slope: 25 to 70 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 0.4 inch to a depth of 60 inches

Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

176B—Croswell-Kinross complex, 0 to 6 percent slopes

Setting

Landform: Lake plains; outwash plains; dunes; stream terraces; beach ridges

Average Map Unit Composition

50 percent Croswell and similar soils
40 percent Kinross and similar soils
5 percent Greenwood and similar soils
4 percent Deer Park and similar soils
1 percent Au Gres and similar soils

Description of Major Components

Croswell

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 6 inches; sand
Bs1,Bs2—6 to 15 inches; sand
BC—15 to 22 inches; sand
C—22 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; beach sand
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Kinross

Typical Profile

Oa—0 to 3 inches; muck
Eg—3 to 14 inches; sand
Bhs—14 to 22 inches; sand
Bs—22 to 35 inches; sand
C—35 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash; beach sand
Slope: 0 to 2 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

181E—Frohling-Tokiahok complex, 8 to 35 percent slopes, dissected, stony

Setting

Landform: Moraines

Average Map Unit Composition

60 percent Frohling and similar soils
30 percent Tokiahok and similar soils
3 percent Munising and similar soils
2 percent Abbaye and similar soils
2 percent Gay and similar soils
2 percent Kalkaska and similar soils
1 percent Garlic and similar soils

Description of Major Components

Frohling

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 7 inches; fine sandy loam
Bhs—7 to 9 inches; fine sandy loam
Bs—9 to 16 inches; fine sandy loam
E/Bx—16 to 34 inches; loamy fine sand
B/Ex—34 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Loamy till
Slope: 8 to 35 percent

Hazard of soil blowing: Slight
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Tokiahok

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 11 inches; loamy fine sand
Bhs—11 to 15 inches; loamy fine sand
Bs—15 to 24 inches; loamy fine sand
2E/Bx,2B/Ex—24 to 59 inches; sandy loam
2BC,2C—59 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 8 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

185B—McMaster cobbly sandy loam, 0 to 4 percent slopes

Setting

Landform: Recessional moraines

Average Map Unit Composition

90 percent McMaster and similar soils
7 percent Traunik and similar soils
2 percent Davies and similar soils
1 percent Halfaday and similar soils

Description of Major Components

McMaster

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 4 inches; cobbly sandy loam
E—4 to 8 inches; cobbly loamy sand
Bhs—8 to 11 inches; cobbly sandy loam
2Bs—11 to 24 inches; very gravelly loamy sand
2BC—24 to 39 inches; very gravelly coarse sand
2C—39 to 80 inches; extremely gravelly coarse sand

Soil Properties and Qualities

Parent material: Loamy drift over calcareous gravelly outwash
Slope: 0 to 4 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 2.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Cropland, pasture

186B—Chatham fine sandy loam, 1 to 6 percent slopes, stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

85 percent Chatham and similar soils
5 percent Eben and similar soils
4 percent Trenary and similar soils
2 percent Ensley and similar soils
2 percent Longrie and similar soils
2 percent Traunik and similar soils

Description of Major Components

Chatham

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 6 inches; fine sandy loam
Bs1—6 to 20 inches; gravelly fine sandy loam

Bs2—20 to 39 inches; flaggy fine sandy loam
2C—39 to 80 inches; extremely flaggy fine sandy loam

Soil Properties and Qualities

Parent material: Loamy glacial outburst flood deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Cropland
Other uses: Forestland

186D—Chatham fine sandy loam, 6 to 15 percent slopes, stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

85 percent Chatham and similar soils
6 percent Eben and similar soils
5 percent Traunik and similar soils
2 percent Ensley and similar soils
2 percent Trenary and similar soils

Description of Major Components

Chatham

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 6 inches; fine sandy loam
Bs1—6 to 20 inches; gravelly fine sandy loam
Bs2—20 to 39 inches; flaggy fine sandy loam
2C—39 to 80 inches; extremely flaggy fine sandy loam

Soil Properties and Qualities

Parent material: Loamy glacial outburst flood deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Available water capacity: About 6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Cropland
Other uses: Forestland

187B—Reade silt loam, 0 to 4 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

85 percent Reade and similar soils
4 percent Cookson and similar soils
4 percent Shoepac and similar soils
3 percent Nahma and similar soils
2 percent Kiva and similar soils
2 percent Summerville and similar soils

Description of Major Components

Reade

Typical Profile

Oa—0 to 4 inches; highly decomposed plant material
E—4 to 7 inches; silt loam
Bhs—7 to 9 inches; loam
Bs1,Bs2—9 to 15 inches; fine sandy loam
2B/E—15 to 20 inches; fine sandy loam
2BC—20 to 28 inches; gravelly fine sandy loam
3R—28 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, July, October)
Ponding: None

Land Use

Dominant land use: Forestland

188B—Eben very cobbly sandy loam, 1 to 6 percent slopes, stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

85 percent Eben and similar soils
5 percent Chatham and similar soils
4 percent Summerville and similar soils
2 percent Cusino and similar soils
2 percent Nahma and similar soils
2 percent Trenary and similar soils

Description of Major Components

Eben

Typical Profile

A—0 to 6 inches; very cobbly sandy loam
Bw1—6 to 22 inches; very cobbly sandy loam
Bw2—22 to 25 inches; very cobbly loamy sand
2BC—25 to 35 inches; extremely gravelly loamy coarse sand
2C—35 to 80 inches; extremely gravelly coarse sand

Soil Properties and Qualities

Parent material: Sandy over loamy outburst flood deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Cropland, pasture

188D—Eben very cobbly sandy loam, 6 to 15 percent slopes, stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

90 percent Eben and similar soils
3 percent Chatham and similar soils

3 percent Kalkaska and similar soils
2 percent Nahma and similar soils
2 percent Trenary and similar soils

Description of Major Components

Eben

Typical Profile

A—0 to 6 inches; very cobbly sandy loam
Bw1—6 to 22 inches; very cobbly sandy loam
Bw2—22 to 25 inches; very cobbly loamy sand
2BC—25 to 35 inches; extremely gravelly loamy coarse sand
2C—35 to 80 inches; extremely gravelly coarse sand

Soil Properties and Qualities

Parent material: Loamy over sandy glacial outburst flood deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Slight
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

188E—Eben very cobbly sandy loam, 15 to 35 percent slopes, stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

90 percent Eben and similar soils
5 percent Chatham and similar soils
2 percent Nahma and similar soils
2 percent Trenary and similar soils
1 percent Kalkaska and similar soils

Description of Major Components

Eben

Typical Profile

A—0 to 6 inches; very cobbly sandy loam
Bw1—6 to 22 inches; very cobbly sandy loam
Bw2—22 to 25 inches; very cobbly loamy sand

2BC—25 to 35 inches; extremely gravelly loamy coarse sand
2C—35 to 80 inches; extremely gravelly coarse sand

Soil Properties and Qualities

Parent material: Loamy over sandy glacial outburst flood deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Slight
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

191B—Ruse-Ensign complex, 0 to 3 percent slopes

Setting

Landform: Depressions on ground moraines

Average Map Unit Composition

60 percent Ruse and similar soils
25 percent Ensign and similar soils
5 percent Nahma and similar soils
4 percent Nykanen and similar soils
3 percent Namur and similar soils
3 percent Summerville and similar soils

Description of Major Components

Ruse

Typical Profile

A—0 to 7 inches; mucky silt loam
Bg—7 to 11 inches; fine sandy loam
Bw—11 to 15 inches; fine sandy loam
R—15 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 4 to 20 inches to lithic bedrock

Drainage class: Poorly drained
Available water capacity: About 2.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Ensign

Typical Profile

Oe—0 to 1 inch; slightly decomposed plant material
A—1 to 5 inches; fine sandy loam
B/A—5 to 8 inches; fine sandy loam
Bw—8 to 15 inches; fine sandy loam
2R—15 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.2 feet (May)
Ponding: None

Land Use

Dominant land use: Forestland

197B—Shoepac-Trenary silt loams, 1 to 6 percent slopes

Setting

Landform: Ground moraines; recessional moraines

Average Map Unit Composition

50 percent Shoepac and similar soils
40 percent Trenary and similar soils
3 percent Charlevoix and similar soils
2 percent Ensley and similar soils
2 percent Escanaba and similar soils
2 percent Traunik and similar soils
1 percent Cathro and similar soils

Description of Major Components

Shoepac

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 6 inches; silt loam
Bs1—6 to 12 inches; fine sandy loam
Bs2—12 to 23 inches; loamy sand
E/B—23 to 33 inches; loamy sand, fine sandy loam
Bt—33 to 53 inches; fine sandy loam
C—53 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 4 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 1.5 to 6.7 feet (April)
Ponding: None

Trenary

Typical Profile

A—0 to 2 inches; silt loam
E—2 to 6 inches; fine sandy loam
Bhs—6 to 12 inches; fine sandy loam
Bs—12 to 17 inches; fine sandy loam
E´—17 to 26 inches; sandy loam
Bt—26 to 37 inches; sandy clay loam
C—37 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over loamy till
Slope: 2 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 8.5 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

198B—Shoepac-Reade silt loams, 1 to 4 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

60 percent Shoepac and similar soils
30 percent Reade and similar soils
6 percent Trenary and similar soils
2 percent Cookson and similar soils
2 percent Ensley and similar soils

Description of Major Components

Shoepac

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 6 inches; silt loam
Bs1—6 to 12 inches; fine sandy loam
Bs2—12 to 23 inches; loamy sand
E/B—23 to 33 inches; loamy sand, fine sandy loam
Bt—33 to 53 inches; fine sandy loam
C—53 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 4 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 1.5 to 6.7 feet (April)
Ponding: None

Reade

Typical Profile

Oa—0 to 4 inches; highly decomposed plant material
E—4 to 7 inches; silt loam
Bhs—7 to 9 inches; loam
Bs1,Bs2—9 to 15 inches; fine sandy loam
2B/E—15 to 20 inches; fine sandy loam
2BC—20 to 28 inches; gravelly fine sandy loam
3R—28 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Eolian deposits over loamy till
Slope: 1 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, July, October)
Ponding: None

Land Use

Dominant land use: Forestland

200A—Charlevoix-Ensley complex, 0 to 3 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

55 percent Charlevoix and similar soils
30 percent Ensley and similar soils
5 percent Cathro and similar soils
5 percent Shoepac and similar soils
3 percent Trenary and similar soils
2 percent Traunik and similar soils

Description of Major Components

Charlevoix

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 5 inches; silt loam
Bhs—5 to 7 inches; silt loam
Bs—7 to 12 inches; silt loam
2E/B—12 to 16 inches; fine sandy loam, loamy fine sand
2B/E—16 to 27 inches; cobbly fine sandy loam, cobbly loamy fine sand
2C—27 to 80 inches; cobbly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 0 to 3 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Available water capacity: About 9.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate

Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 7.0 feet (May)
Ponding: None

Ensley

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loam
Bw—7 to 19 inches; fine sandy loam
2C—19 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.3 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

202B—Sauxhead sandy loam, 1 to 6 percent slopes, rocky, very stony

Setting

Landform: Benches; moraines

Average Map Unit Composition

85 percent Sauxhead and similar soils
5 percent rock outcrop
5 percent Chocolay and similar soils
3 percent Burt and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Sauxhead

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material

E—1 to 4 inches; sandy loam
2Bw—4 to 14 inches; very channery loamy sand
3Cr—14 to 17 inches; weathered bedrock
3R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy and channery sandstone; glaciofluvial deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 0.8 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.4 feet (April, May, October, November)
Ponding: None

Land Use

Dominant land use: Forestland

206B—Traunik cobbly fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Recessional moraines; outwash plains

Average Map Unit Composition

90 percent Traunik and similar soils
5 percent Kiva and similar soils
2 percent McMaster and similar soils
2 percent Trenary and similar soils
1 percent Davies and similar soils

Description of Major Components

Traunik

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 4 inches; cobbly fine sandy loam
Bs1—4 to 11 inches; cobbly fine sandy loam
2Bs2—11 to 24 inches; very gravelly sand
2BC—24 to 31 inches; very gravelly sand
2C—31 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy and gravelly outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low

Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 2.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Cropland, pasture

206D—Traunik cobbly fine sandy loam, 6 to 15 percent slopes

Setting

Landform: Recessional moraines; outwash plains

Average Map Unit Composition

90 percent Traunik and similar soils
6 percent Kiva and similar soils
2 percent Trenary and similar soils
1 percent Davies and similar soils
1 percent McMaster and similar soils

Description of Major Components

Traunik

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 4 inches; cobbly fine sandy loam
Bs1—4 to 11 inches; cobbly fine sandy loam
2Bs2—11 to 24 inches; very gravelly sand
2BC—24 to 31 inches; very gravelly sand
2C—31 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy and gravelly outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 2.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

211B—Munising-Abbaye fine sandy loams, 1 to 6 percent slopes

Setting

Landform: Ground moraines; end moraines

Average Map Unit Composition

55 percent Munising and similar soils
35 percent Abbaye and similar soils
3 percent Jacobsville and similar soils
3 percent Skanee and similar soils
2 percent Frohling and similar soils
2 percent Zeba and similar soils

Description of Major Components

Munising

Typical Profile

Oe—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; fine sandy loam
E—2 to 10 inches; loamy sand
Bhs—10 to 14 inches; sandy loam
Bs—14 to 22 inches; sandy loam
B/Ex—22 to 49 inches; sandy loam
Bt—49 to 63 inches; sandy loam
C—63 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Abbaye

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 4 inches; fine sandy loam
E—4 to 13 inches; loamy sand
Bs1,Bs2—13 to 25 inches; sandy loam

B/E—25 to 32 inches; sandy loam, loamy sand
2R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 4.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, October)
Ponding: None

Land Use

Dominant land use: Forestland

214B—Kalkaska-Blue Lake complex, 1 to 6 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

60 percent Kalkaska and similar soils
30 percent Blue Lake and similar soils
6 percent Dillingham and similar soils
2 percent Halfaday and similar soils
2 percent Steuben and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained

Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

214D—Kalkaska-Blue Lake complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Blue Lake and similar soils
6 percent Dillingham and similar soils
2 percent Halfaday and similar soils
2 percent Steuben and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand

Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; loamy sand, sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

214E—Kalkaska-Blue Lake complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Blue Lake and similar soils
5 percent Dillingham and similar soils
2 percent Deford and similar soils
2 percent Steuben and similar soils
1 percent Tawas and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid

Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

221B—Jeske-Au Train-Gongeau complex, 0 to 8 percent slopes

Setting

Landform: Moraines

Average Map Unit Composition

40 percent Jeske and similar soils
30 percent Au Train and similar soils
20 percent Gongeau and similar soils
8 percent Deerton and similar soils
2 percent Trout Bay and similar soils

Description of Major Components

Jeske

Typical Profile

Oe,Oa—0 to 3 inches; highly decomposed plant material
C1,C2—3 to 21 inches; sand
2Cr—21 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 0 to 2 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 23 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 2.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (April)
Ponding: None

Au Train

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 9 inches; coarse sand
Bhs—9 to 14 inches; coarse sand
Cr—14 to 32 inches; weathered bedrock
R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 1 to 8 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 1.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, November)
Ponding: None

Gongeau

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loamy sand
2C—7 to 18 inches; sand
2Cr—18 to 29 inches; weathered bedrock
2R—29 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 30 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

225B—Cusino loamy sand, 1 to 6 percent slopes

Setting

Landform: Moraines; outwash plains; kame terraces

Average Map Unit Composition

95 percent Cusino and similar soils
5 percent Waiska and similar soils

Description of Major Components

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs1,Bs2—10 to 17 inches; sand
BC,C—17 to 63 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly glaciofluvial deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

225D—Cusino loamy sand, 6 to 15 percent slopes

Setting

Landform: Moraines; outwash plains; kame terraces

Average Map Unit Composition

95 percent Cusino and similar soils
5 percent Waiska and similar soils

Description of Major Components

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs1,Bs2—10 to 17 inches; sand
BC,C—17 to 63 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash

Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

226B—Kalkaska-Cusino complex, 1 to 6 percent slopes

Setting

Landform: Disintegration moraines; outwash plains; kame terraces

Average Map Unit Composition

60 percent Kalkaska and similar soils
35 percent Cusino and similar soils
5 percent Waiska and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs—10 to 17 inches; sand
C—17 to 63 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

226D—Kalkaska-Cusino complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains; kame terraces

Average Map Unit Composition

60 percent Kalkaska and similar soils
35 percent Cusino and similar soils
5 percent Waiska and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low

Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs1,Bs2—10 to 17 inches; sand
BC,C—17 to 80 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

226E—Kalkaska-Cusino complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; outwash plains; kame terraces

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Cusino and similar soils
5 percent Waiska and similar soils
2 percent Deford and similar soils
2 percent Wallace and similar soils
1 percent Tawas and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand

E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs1,Bs2—10 to 17 inches; sand
BC,C—17 to 80 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

226F—Kalkaska-Cusino complex, 35 to 70 percent slopes

Setting

Landform: Disintegration moraines; outwash plains; kame terraces

Average Map Unit Composition

55 percent Kalkaska and similar soils
30 percent Cusino and similar soils
7 percent Waiska and similar soils
5 percent Wallace and similar soils
2 percent Deford and similar soils
1 percent Tawas and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 35 to 70 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cusino

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 8 inches; loamy sand
Bhs—8 to 10 inches; loamy sand
Bs1,Bs2—10 to 17 inches; sand
BC,C—17 to 80 inches; gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 35 to 70 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid

Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

227A—Halfaday sand, 0 to 3 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

90 percent Halfaday and similar soils
5 percent Paquin and similar soils
3 percent Au Gres and similar soils
2 percent Deford and similar soils

Description of Major Components

Halfaday

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
BC,C—25 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

232B—Shelldrake sand, 0 to 8 percent slopes

Setting

Landform: Beach ridges

Average Map Unit Composition

90 percent Shelldrake and similar soils
5 percent Wurtsmith and similar soils
3 percent Meehan and similar soils
2 percent Deford and similar soils

Description of Major Components

Shelldrake

Typical Profile

Oe—0 to 1 inch; slightly decomposed plant material
Oa—1 to 3 inches; highly decomposed plant material
A—3 to 4 inches; sand
C—4 to 80 inches; sand

Soil Properties and Qualities

Parent material: Beach sand
Slope: 0 to 8 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

233B—Abbaye-Zeba complex, 0 to 6 percent slopes, very stony

Setting

Landform: Ground moraines

Average Map Unit Composition

60 percent Abbaye and similar soils
25 percent Zeba and similar soils
5 percent Jacobsville and similar soils
5 percent Munising and similar soils
5 percent Skanee and similar soils

Description of Major Components

Abbaye

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 4 inches; fine sandy loam

E—4 to 13 inches; loamy sand
Bs1,Bs2—13 to 25 inches; sandy loam
B/E—25 to 32 inches; loamy sand, sandy loam
2R—32 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 4.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.7 feet (April, October)
Ponding: None

Zeba

Typical Profile

A—0 to 2 inches; cobbly fine sandy loam
E—2 to 5 inches; cobbly fine sandy loam
Bs—5 to 13 inches; cobbly fine sandy loam
E´,B/E—13 to 33 inches; sandy loam
2R—33 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy drift
Slope: 0 to 3 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 4.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 2.8 feet (May)
Ponding: None

Land Use

Dominant land use: Forestland

234A—Levasseur-Burt complex, 0 to 3 percent slopes, very stony

Setting

Landform: Kame terraces on moraines

Average Map Unit Composition

55 percent Levasseur and similar soils
35 percent Burt and similar soils
5 percent Sauxhead and similar soils
3 percent Skandia and similar soils
2 percent Jacobsville and similar soils

Description of Major Components

Levasseur

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
Oa—1 to 3 inches; highly decomposed plant material
E—3 to 8 inches; extremely flaggy sand
Bw—8 to 13 inches; extremely flaggy sand
2R—13 inches; bedrock

Soil Properties and Qualities

Parent material: Sandy and gravelly glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Available water capacity: About 0.1 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (April)
Ponding: None

Burt

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; mucky sand
Cg,C—5 to 19 inches; sand
2R—19 inches; bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 1.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)

Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

235B—Sauxhead-Burt complex, 0 to 4 percent slopes, rocky, very stony

Setting

Landform: Benches; moraines

Average Map Unit Composition

60 percent Sauxhead and similar soils
30 percent Burt and similar soils
5 percent Levasseur and similar soils
3 percent Skandia and similar soils
2 percent Rock outcrop

Description of Major Components

Sauxhead

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 4 inches; sandy loam
2Bw—4 to 14 inches; very channery loamy sand
3Cr—14 to 17 inches; weathered bedrock
3R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy and channery sandstone; glaciofluvial deposits
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 0.8 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.4 feet (April, May, October, November)
Ponding: None

Burt

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 5 inches; mucky sand

Cg,C—5 to 19 inches; sand
2R—19 inches; bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 1.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland (fig. 4)

236B—Waiska stony sandy loam, 1 to 6 percent slopes, extremely bouldery

Setting

Landform: Benches

Average Map Unit Composition

85 percent Waiska and similar soils
9 percent Chocolay and similar soils
2 percent Buckroe and similar soils
2 percent Jacobsville and similar soils
2 percent Sauxhead and similar soils

Description of Major Components

Waiska

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; stony sandy loam
Bhs—4 to 8 inches; gravelly sand
Bs—8 to 18 inches; very gravelly sand
BC,C—18 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 1 to 6 percent

Figure 4.—A perched water table in an area of Sauxhead-Burt complex, 0 to 4 percent slopes, rocky, very stony. Summer and winter are the best seasons for logging activities in areas of these soils.

Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

236D—Waiska stony sandy loam, 6 to 15 percent slopes, extremely bouldery

Setting

Landform: Benches

Average Map Unit Composition

85 percent Waiska and similar soils
7 percent Buckroe and similar soils
3 percent Chocolay and similar soils
3 percent Sauxhead and similar soils
2 percent Jacobsville and similar soils

Description of Major Components

Waiska

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; stony sandy loam
Bhs—4 to 8 inches; gravelly sand
Bs—8 to 18 inches; very gravelly sand
BC,C—18 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Sandy and gravelly outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

237B—Chatham-Davies complex, 0 to 6 percent slopes

Setting

Landform: Knolls in glacial drainage channels

Average Map Unit Composition

65 percent Chatham and similar soils
20 percent Davies and similar soils
6 percent Shoepac and similar soils
4 percent Traunik and similar soils

3 percent McMaster and similar soils
2 percent Tawas and similar soils

Description of Major Components

Chatham

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 6 inches; gravelly fine sandy loam
Bs1—6 to 20 inches; gravelly fine sandy loam
Bs2—20 to 39 inches; flaggy fine sandy loam
2C—39 to 80 inches; extremely flaggy fine sandy loam

Soil Properties and Qualities

Parent material: Loamy glacial outburst flood deposits
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Davies

Typical Profile

Oa—0 to 4 inches; very cobbly muck
Bg—4 to 11 inches; very cobbly sandy loam
C1,C2—11 to 80 inches; very cobbly sand

Soil Properties and Qualities

Parent material: Sandy glacial outburst flood deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

239B—Longrie-Shingleton complex, 1 to 6 percent slopes

Setting

Landform: Kame terraces in glacial drainage channels; ground moraines

Average Map Unit Composition

50 percent Longrie and similar soils
40 percent Shingleton and similar soils
4 percent Namur and similar soils
4 percent Nykanen and similar soils
2 percent Ensign and similar soils

Description of Major Components

Longrie

Typical Profile

A—0 to 4 inches; fine sandy loam
E—4 to 9 inches; fine sandy loam
Bhs—9 to 11 inches; fine sandy loam
Bs—11 to 27 inches; fine sandy loam
2C—27 to 31 inches; gravelly loam
3R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Shingleton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 4 inches; loamy sand
Bhs—4 to 17 inches; loamy sand
2R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate

Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

240F—Trout Bay-Gongeau-Shingleton-Rock outcrop complex, 1 to 70 percent slopes

Setting

Landform: Benches

Average Map Unit Composition

30 percent Trout Bay and similar soils
25 percent Gongeau and similar soils
20 percent Shingleton and similar soils
15 percent Rock outcrop
5 percent Ruse and similar soils
3 percent Nahma and similar soils
2 percent Nykanen and similar soils

Description of Major Components

Trout Bay

Typical Profile

Oa—0 to 19 inches; muck
2Cr—19 to 34 inches; weathered bedrock
2R—34 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Herbaceous material; woody material
Slope: 1 to 25 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 17 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)

Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Gongeau

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loamy sand
2C—7 to 18 inches; sand
2Cr—18 to 29 inches; weathered bedrock
2R—29 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 30 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Shingleton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 4 inches; loamy sand
Bhs—4 to 17 inches; loamy sand
2R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 25 to 70 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

241—Cathro-Gay mucks

Setting

Landform: Depressions and drainageways on ground moraines

Average Map Unit Composition

55 percent Cathro and similar soils
35 percent Gay and similar soils
6 percent Skanee and similar soils
2 percent Munising and similar soils
2 percent Zeba and similar soils

Description of Major Components

Cathro

Typical Profile

Oa1,Oa2,Oa3—0 to 46 inches; muck
C—46 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Woody material over lodgment till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 20.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Gay

Typical Profile

Oa—0 to 4 inches; muck
A—4 to 7 inches; fine sandy loam
Eg—7 to 11 inches; sandy loam
Bw—11 to 16 inches; sandy loam
BC,C—16 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 8.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

242B—Kalkaska sand, 0 to 6 percent slopes, severely burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
5 percent Kinross and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland (fig. 5)

242D—Kalkaska sand, 6 to 15 percent slopes, severely burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
5 percent Kinross and similar soils

Figure 5.—An area of Kalkaska sand, 0 to 6 percent slopes, severely burned, on the Kingston Plains. Previous fires have hindered succession back to a forest community.

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

242F—Kalkaska sand, 35 to 70 percent slopes, severely burned

Setting

Landform: Pitted outwash plains

Average Map Unit Composition

90 percent Kalkaska and similar soils
5 percent Pelkie and similar soils
3 percent Evart and similar soils
2 percent Kinross and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 35 to 70 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

243—Markey mucky peat

Setting

Landform: Ground moraines; outwash plains; lake plains

Average Map Unit Composition

90 percent Markey and similar soils
10 percent Kinross and similar soils

Description of Major Components

Markey

Typical Profile

Oe—0 to 3 inches; mucky peat
Oa—3 to 20 inches; muck
Cg—20 to 80 inches; sand

Soil Properties and Qualities

Parent material: Herbaceous material over sandy glaciofluvial deposits
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 10.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Wetland wildlife habitat

245B—Trout Bay-Lupton-Gongeau complex, 0 to 6 percent slopes

Setting

Landform: Drainageways and depression in glacial drainage channels

Average Map Unit Composition

40 percent Trout Bay and similar soils
30 percent Lupton and similar soils
20 percent Gongeau and similar soils
4 percent Jeske and similar soils
3 percent Au Train and similar soils
3 percent Ruse and similar soils

Description of Major Components

Trout Bay

Typical Profile

Oa—0 to 19 inches; muck
2Cr—19 to 34 inches; weathered bedrock
2R—34 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Herbaceous material; woody material
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 17 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 7.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Lupton

Typical Profile

Oi—0 to 4 inches; peat
Oa—4 to 80 inches; muck

Soil Properties and Qualities

Parent material: Woody material
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Available water capacity: About 24.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Gongeau

Typical Profile

Oa—0 to 5 inches; muck
A—5 to 7 inches; mucky loamy sand
2C—7 to 18 inches; sand
2Cr—18 to 29 inches; weathered bedrock
2R—29 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 30 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 3.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

246B—Garlic sand, 0 to 6 percent slopes

Setting

Landform: Disintegration moraines; pitted outwash plains

Average Map Unit Composition

90 percent Garlic and similar soils
5 percent Finch and similar soils
5 percent Okeefe and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

246D—Garlic sand, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; pitted outwash plains

Average Map Unit Composition

90 percent Garlic and similar soils
5 percent Finch and similar soils
5 percent Okeefe and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material

E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

246E—Garlic sand, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; pitted outwash plains

Average Map Unit Composition

90 percent Garlic and similar soils
5 percent Finch and similar soils
5 percent Kinross and similar soils

Description of Major Components

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C1,C2—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

248B—Escanaba-Greylock complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Escanaba and similar soils
40 percent Greylock and similar soils
3 percent Kalkaska and similar soils
3 percent Munising and similar soils
2 percent Blue Lake and similar soils
1 percent Charlevoix and similar soils
1 percent Cookson and similar soils

Description of Major Components

Escanaba

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sand
E—3 to 6 inches; loamy fine sand
Bs1,Bs2—6 to 26 inches; loamy fine sand
2E/B—26 to 35 inches; fine sandy loam
2Bt—35 to 42 inches; fine sandy loam
2C—42 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

248D—Escanaba-Greylock complex, 6 to 15 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Escanaba and similar soils
40 percent Greylock and similar soils
3 percent Kalkaska and similar soils
3 percent Munising and similar soils
2 percent Blue Lake and similar soils
2 percent Charlevoix and similar soils

Description of Major Components

Escanaba

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sand
E—3 to 6 inches; loamy fine sand
Bs1,Bs2—6 to 26 inches; loamy fine sand
2E/B—26 to 35 inches; fine sandy loam
2Bt—35 to 42 inches; fine sandy loam
2C—42 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy lodgment till
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

248E—Escanaba-Greylock complex, 15 to 35 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Escanaba and similar soils
40 percent Greylock and similar soils
5 percent Cusino and similar soils

3 percent Blue Lake and similar soils
2 percent Kalkaska and similar soils

Description of Major Components

Escanaba

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sand
E—3 to 6 inches; loamy fine sand
Bs1,Bs2—6 to 26 inches; loamy fine sand
2E/B—26 to 35 inches; fine sandy loam
2Bt—35 to 42 inches; fine sandy loam
2C—42 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy lodgment till
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 6.9 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

249B—Sauxhead-Skandia complex, 0 to 4 percent slopes

Setting

Landform: Benches; moraines

Average Map Unit Composition

55 percent Sauxhead and similar soils
35 percent Skandia and similar soils
3 percent Burt and similar soils
3 percent Chocolay and similar soils
2 percent Chabeneau and similar soils
2 percent Levasseur and similar soils

Description of Major Components

Sauxhead

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 4 inches; sandy loam
2Bw—4 to 14 inches; very channery loamy sand
3Cr—14 to 17 inches; weathered bedrock
3R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy and channery sandstone; glaciofluvial deposits
Slope: 0 to 4 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 0.8 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.4 feet (April, May, October, November)
Ponding: None

Skandia

Typical Profile

Oe—0 to 4 inches; mucky peat
Oa—4 to 26 inches; muck
2Cr—26 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Woody material; herbaceous material
Slope: 0 to 1 percent

Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 16 to 50 inches to paralithic bedrock; 16 to 51 inches to lithic bedrock
Drainage class: Very poorly drained
Available water capacity: About 10.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, June, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, June, October, November)
Months in which ponding does not occur: January, February, July, August, September, December

Land Use

Dominant land use: Forestland

250B—Chocolay-Jacobsville complex, 0 to 6 percent slopes, extremely stony

Setting

Landform: Moraines

Average Map Unit Composition

55 percent Chocolay and similar soils
30 percent Jacobsville and similar soils
5 percent Abbaye and similar soils
3 percent Paavola and similar soils
3 percent Sauxhead and similar soils
2 percent Munising and similar soils
2 percent Skandia and similar soils

Description of Major Components

Chocolay

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 3 inches; very stony fine sandy loam
E—3 to 8 inches; very stony fine sandy loam
Bhs—8 to 14 inches; very stony fine sandy loam
Bs—14 to 27 inches; very gravelly sandy loam
2R—27 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.3 feet (April, October)
Ponding: None

Jacobsville

Typical Profile

Oa—0 to 5 inches; muck
E—5 to 9 inches; sandy loam
Bw—9 to 23 inches; sandy loam
C—23 to 36 inches; sandy loam
2R—36 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Very low
Potential for frost action: High
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 6.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

251B—Greylock fine sandy loam, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

90 percent Greylock and similar soils
4 percent Blue Lake and similar soils
2 percent Charlevoix and similar soils
2 percent Cookson and similar soils
2 percent Escanaba and similar soils

Description of Major Components

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

251D—Greylock fine sandy loam, 6 to 15 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

85 percent Greylock and similar soils
6 percent Blue Lake and similar soils
4 percent Escanaba and similar soils
3 percent Dillingham and similar soils
2 percent Charlevoix and similar soils

Description of Major Components

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

252A—Finch-Kinross complex, 0 to 3 percent slopes

Setting

Landform: Lake plains; outwash plains

Average Map Unit Composition

50 percent Finch and similar soils
40 percent Kinross and similar soils
5 percent Paquin and similar soils
3 percent Dawson and similar soils
2 percent Garlic and similar soils

Description of Major Components

Finch

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 11 inches; sand
Bsm—11 to 42 inches; sand
C—42 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 7 to 13 inches to ortstein
Drainage class: Somewhat poorly drained
Available water capacity: About 4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Kinross

Typical Profile

Oa—0 to 3 inches; muck
Eg—3 to 14 inches; sand
Bhs—14 to 22 inches; sand
Bs—22 to 35 inches; sand
C—35 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

254C—Kalkaska-Blue Lake complex, 1 to 12 percent slopes, dissected

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Blue Lake and similar soils
3 percent Dillingham and similar soils
3 percent Steuben and similar soils
2 percent Deford and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand

BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 1 to 12 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

254E—Kalkaska-Blue Lake complex, 8 to 35 percent slopes, dissected

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Blue Lake and similar soils

5 percent Dillingham and similar soils
3 percent Steuben and similar soils
2 percent Deford and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 8 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 8 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

254F—Kalkaska-Blue Lake complex, 15 to 70 percent slopes, dissected

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Kalkaska and similar soils
35 percent Blue Lake and similar soils
5 percent Dillingham and similar soils
3 percent Steuben and similar soils
2 percent Deford and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 15 to 70 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 15 to 70 percent

Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

255D—Wallace sand, 1 to 15 percent slopes

Setting

Landform: Lake plains; outwash plains; beach ridges

Average Map Unit Composition

95 percent Wallace and similar soils
3 percent Paquin and similar soils
2 percent Finch and similar soils

Description of Major Components

Wallace

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 10 inches; sand
Bhs—10 to 11 inches; sand
Bhsm—11 to 21 inches; sand
Bsm—21 to 26 inches; sand
BC—26 to 59 inches; sand
C—59 to 80 inches; sand

Soil Properties and Qualities

Parent material: Beach sand
Slope: 1 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 8 to 18 inches to ortstein
Drainage class: Well drained
Available water capacity: About 2.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

256B—Whitewash sand, 0 to 4 percent slopes

Setting

Landform: Stream terraces

Average Map Unit Composition

95 percent Whitewash and similar soils
5 percent Deer Park and similar soils

Description of Major Components

Whitewash

Typical Profile

Oe—0 to 3 inches; moderately decomposed plant material
C—3 to 7 inches; sand
Ab—7 to 9 inches; fine sandy loam
C´—9 to 80 inches; stratified sand to fine sandy loam to silt loam

Soil Properties and Qualities

Parent material: Sandy alluvium
Slope: 0 to 4 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

266A—Spot-Finch complex, 0 to 3 percent slopes

Setting

Landform: Lake plains; outwash plains

Average Map Unit Composition

50 percent Spot and similar soils
40 percent Finch and similar soils
5 percent Dawson and similar soils
5 percent Paquin and similar soils

Description of Major Components

Spot

Typical Profile

Oi—0 to 2 inches; peat
E—2 to 8 inches; sand
Bhsm—8 to 10 inches; sand
B—10 to 18 inches; sand
C—18 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: 8 to 12 inches to ortstein
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Finch

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 11 inches; sand
Bsm—11 to 42 inches; sand
C—42 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 7 to 13 inches to ortstein
Drainage class: Somewhat poorly drained
Available water capacity: About 2.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

267A—Finch sand, 0 to 3 percent slopes

Setting

Landform: Lake plains; outwash plains

Average Map Unit Composition

85 percent Finch and similar soils
10 percent Spot and similar soils
5 percent Paquin and similar soils

Description of Major Components

Finch

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 11 inches; sand
Bsm—11 to 42 inches; sand
C—42 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 7 to 13 inches to ortstein
Drainage class: Somewhat poorly drained
Available water capacity: About 2.8 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

268C—Munising, calcareous substratum-Frohling, calcareous substratum-Cookson fine sandy loams, 1 to 12 percent slopes, dissected

Setting

Landform: Ground moraines

Average Map Unit Composition

40 percent Munising and similar soils
30 percent Frohling and similar soils
20 percent Cookson and similar soils
4 percent Kalkaska and similar soils
3 percent Reade and similar soils
2 percent Shingleton and similar soils
1 percent Au Train and similar soils

Description of Major Components

Munising

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 3 inches; fine sandy loam
Bhs—3 to 6 inches; fine sandy loam
Bs—6 to 23 inches; fine sandy loam
2E/Bx—23 to 38 inches; loamy sand, fine sandy loam
2B/Ex—38 to 50 inches; fine sandy loam, loamy sand
2BC—50 to 63 inches; gravelly fine sandy loam
2C—63 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Frohling

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 5 inches; fine sandy loam
Bs—5 to 24 inches; fine sandy loam
2E/Bx,2B/Ex—24 to 73 inches; fine sandy loam
3C—73 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam
2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Coarse-loamy till
Slope: 1 to 12 percent
Hazard of soil blowing: Slight
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

269E—Frohling, calcareous substratum-Garlic-Cookson complex, 8 to 35 percent slopes, dissected

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Frohling and similar soils
20 percent Garlic and similar soils
20 percent Cookson and similar soils
4 percent Chatham and similar soils
3 percent Alcona and similar soils
3 percent Ensley and similar soils

Description of Major Components

Frohling

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 5 inches; fine sandy loam
Bs—5 to 24 inches; fine sandy loam
2E/Bx,2B/Ex—24 to 73 inches; fine sandy loam
3C—73 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 8 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Garlic

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 11 inches; sand
Bs—11 to 20 inches; sand
BC—20 to 29 inches; sand
C1,C2—29 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 8 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam
2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Coarse-loamy till
Slope: 8 to 35 percent

Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

272C—Munising-Yalmer-Frohling complex, calcareous substratum, 1 to 12 percent slopes, dissected

Setting

Landform: Ground moraines

Average Map Unit Composition

40 percent Munising and similar soils
30 percent Yalmer and similar soils
20 percent Frohling and similar soils
3 percent Escanaba and similar soils
3 percent Kalkaska and similar soils
2 percent Ensley and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Munising

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 3 inches; fine sandy loam
Bhs—3 to 6 inches; fine sandy loam
Bs—6 to 23 inches; fine sandy loam
2E/Bx—23 to 38 inches; loamy sand, fine sandy loam
2B/Ex—38 to 50 inches; fine sandy loam, loamy sand
2BC—50 to 63 inches; gravelly fine sandy loam
2C—63 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate

Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Yalmer

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 2 inches; loamy sand
E—2 to 5 inches; sand
Bhs—5 to 16 inches; loamy sand
Bs—16 to 28 inches; gravelly loamy sand
2E/Bx—28 to 36 inches; loamy sand
2B/Ex—36 to 62 inches; fine sandy loam
3C—62 to 80 inches; fine sandy loam

Soil Properties and Qualities

Parent material: Outwash over lodgment till
Slope: 1 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 2.5 feet (April)
Ponding: None

Frohling

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 5 inches; fine sandy loam
Bs—5 to 24 inches; fine sandy loam
2E/Bx,2B/Ex—24 to 73 inches; fine sandy loam, loamy fine sand
3C—73 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Lodgment till
Slope: 6 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

275B—Munising, calcareous substratum-Cookson fine sandy loams, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Munising and similar soils
40 percent Cookson and similar soils
5 percent Frohling and similar soils
3 percent Reade and similar soils
2 percent Blue Lake and similar soils

Description of Major Components

Munising

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 3 inches; fine sandy loam
Bhs—3 to 6 inches; fine sandy loam
Bs—6 to 23 inches; fine sandy loam
2E/Bx—23 to 38 inches; loamy sand, fine sandy loam
2B/Ex—38 to 50 inches; fine sandy loam, loamy sand
2BC—50 to 63 inches; gravelly fine sandy loam
2C—63 to 80 inches; gravelly fine sandy loam

Soil Properties and Qualities

Parent material: Eolian deposits over lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 15 to 25 inches to a fragipan
Drainage class: Moderately well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1 to 2 feet (April)
Ponding: None

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam

2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Coarse-loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

281E—Mongo silt loam, 8 to 45 percent slopes, dissected

Setting

Landform: Lake plains

Average Map Unit Composition

95 percent Mongo and similar soils
3 percent Bowers and similar soils
2 percent Pickford and similar soils

Description of Major Components

Mongo

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
A,A/E—1 to 6 inches; silt loam
E/B,B/E—6 to 22 inches; silt loam
Bt—22 to 38 inches; silty clay
C—38 to 80 inches; stratified silt loam to silt to silty clay loam

Soil Properties and Qualities

Parent material: Lacustrine deposits
Slope: 8 to 45 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very high
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 11.5 inches to a depth of 60 inches
Shrink-swell potential: Very high
Permeability: Very slow
Flooding: None

Depth to seasonal high water table: 1.5 to 6.7 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

282B—Furlong-Shingleton complex, 1 to 6 percent slopes

Setting

Landform: Benches on kame terraces

Average Map Unit Composition

50 percent Furlong and similar soils
40 percent Shingleton and similar soils
3 percent Longrie and similar soils
3 percent Namur and similar soils
2 percent Nykanen and similar soils
2 percent Ruse and similar soils

Description of Major Components

Furlong

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 2 inches; sand
E—2 to 5 inches; sand
Bhs—5 to 7 inches; sand
Bs1,Bs2—7 to 19 inches; sand
C—19 to 22 inches; sand
2R—22 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Shingleton

Typical Profile

AE—0 to 1 inch; highly decomposed plant material
E—1 to 7 inches; loamy sand
Bhs—7 to 8 inches; loamy sand
Bs—8 to 11 inches; loamy sand
2R—11 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Available water capacity: About 0.9 inch to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

282D—Furlong-Shingleton complex, 6 to 15 percent slopes

Setting

Landform: Benches on kame terraces

Average Map Unit Composition

50 percent Furlong and similar soils
40 percent Shingleton and similar soils
4 percent Longrie and similar soils
2 percent Eben and similar soils
2 percent Nykanen and similar soils
2 percent Ruse and similar soils

Description of Major Components

Furlong

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 2 inches; sand
E—2 to 5 inches; sand
Bhs—5 to 7 inches; sand
Bs1,Bs2—7 to 19 inches; sand
C—19 to 22 inches; sand
2R—22 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat excessively drained

Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Shingleton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
A—1 to 4 inches; loamy sand
Bhs—4 to 17 inches; loamy sand
2R—17 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Available water capacity: About 1.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

284B—Steuben-Blue Lake-Kalkaska complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines; disintegration moraines

Average Map Unit Composition

40 percent Steuben and similar soils
30 percent Blue Lake and similar soils
20 percent Kalkaska and similar soils
4 percent Munising and similar soils
2 percent Alcona and similar soils
2 percent Halfaday and similar soils
2 percent Tawas and similar soils

Description of Major Components

Steuben

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material

E—2 to 8 inches; fine sandy loam
Bhs1,Bhs2—8 to 16 inches; fine sandy loam
Bs—16 to 21 inches; fine sandy loam
(B/E)x—21 to 40 inches; fine sandy loam
2E and Bt—40 to 45 inches; sand
2C—45 to 80 inches; sand

Soil Properties and Qualities

Parent material: Loamy till over sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 17 to 26 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

284D—Steuben-Blue Lake-Kalkaska complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

40 percent Steuben and similar soils
25 percent Blue Lake and similar soils
25 percent Kalkaska and similar soils
4 percent Frohling and similar soils
4 percent Waiska and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Steuben

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 8 inches; fine sandy loam
Bhs1,Bhs2—8 to 16 inches; fine sandy loam
Bs—16 to 21 inches; fine sandy loam
(B/E)x—21 to 40 inches; fine sandy loam
2E and Bt—40 to 45 inches; sand
2C—45 to 80 inches; sand

Soil Properties and Qualities

Parent material: Loamy till over sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 17 to 26 inches to a fragipan
Drainage class: Well drained

Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

284E—Steuben-Blue Lake-Kalkaska complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

40 percent Steuben and similar soils
30 percent Blue Lake and similar soils
20 percent Kalkaska and similar soils
5 percent Tokiahok and similar soils
3 percent Dillingham and similar soils
2 percent Tawas and similar soils

Description of Major Components

Steuben

Typical Profile

Oe—0 to 2 inches; moderately decomposed plant material
E—2 to 8 inches; fine sandy loam
Bhs1,Bhs2—8 to 16 inches; fine sandy loam
Bs—16 to 21 inches; fine sandy loam
(B/E)x—21 to 40 inches; fine sandy loam
2E and Bt—40 to 45 inches; sand
2C—45 to 80 inches; sand

Soil Properties and Qualities

Parent material: Loamy till over sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: 17 to 26 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Blue Lake

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 7 inches; loamy sand
Bhs—7 to 9 inches; loamy sand
Bs—9 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

285B—Halfaday-Kinross complex, 0 to 4 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

50 percent Halfaday and similar soils
40 percent Kinross and similar soils
5 percent Kalkaska and similar soils

3 percent Garlic and similar soils
2 percent Tawas and similar soils

Description of Major Components

Halfaday

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
BC,C—25 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 4 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Kinross

Typical Profile

Oa—0 to 3 inches; muck
Eg—3 to 14 inches; sand
Bhs—14 to 22 inches; sand
Bs—22 to 35 inches; sand
C—35 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 2 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 4.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, October, November, December)
Depth and months of deepest ponding: 0.2 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

286B—Greylock-Cookson fine sandy loams, 1 to 6 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

50 percent Greylock and similar soils
40 percent Cookson and similar soils
3 percent Amadon and similar soils
3 percent Blue Lake and similar soils
2 percent Escanaba and similar soils
2 percent Reade and similar soils

Description of Major Components

Greylock

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 6 inches; fine sandy loam
E—6 to 7 inches; sandy loam
Bhs,Bs—7 to 19 inches; sandy loam
E/B,B/E—19 to 34 inches; sandy loam
C—34 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Loamy lodgment till
Slope: 1 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 7.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam

2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Coarse-loamy till
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

287B—McMaster-Davies complex, 0 to 4 percent slopes

Setting

Landform: Knolls in glacial drainage channels

Average Map Unit Composition

55 percent McMaster and similar soils
35 percent Davies and similar soils
5 percent Tawas and similar soils
5 percent Traunik and similar soils

Description of Major Components

McMaster

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
A—2 to 4 inches; cobbly sandy loam
E—4 to 8 inches; cobbly loamy sand
Bhs—8 to 11 inches; cobbly sandy loam
2Bs—11 to 24 inches; very gravelly loamy sand
2BC—24 to 39 inches; very gravelly coarse sand
2C—39 to 80 inches; extremely gravelly coarse sand

Soil Properties and Qualities

Parent material: Gravelly glacial outburst flood deposits
Slope: 0 to 4 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 2.4 inches to a depth of 60 inches

Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Davies

Typical Profile

Oa—0 to 4 inches; very cobbly muck
Bg—4 to 11 inches; very cobbly sandy loam
C1,C2—11 to 80 inches; very cobbly sand

Soil Properties and Qualities

Parent material: Gravelly outwash
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: High
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

290A—Namur-Ruse complex, 0 to 2 percent slopes, very rocky, very stony

Setting

Landform: Glacial drainage channels

Average Map Unit Composition

50 percent Namur and similar soils
40 percent Ruse and similar soils
5 percent rock outcrop
3 percent Ensign and similar soils
2 percent McMaster and similar soils

Description of Major Components

Namur

Typical Profile

A—0 to 3 inches; silt loam
Bw—3 to 6 inches; silt loam
2R—6 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 4 to 10 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 1.2 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Ruse

Typical Profile

A—0 to 7 inches; mucky loam
Bw,Bg—7 to 15 inches; flaggy sandy loam
2R—15 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy pedisediment; loamy till
Slope: 0 to 2 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: High
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Poorly drained
Available water capacity: About 2.7 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

292B—Mashek fine sandy loam, sandy substratum, 0 to 4 percent slopes

Setting

Landform: Ground moraines

Average Map Unit Composition

90 percent Mashek and similar soils
5 percent Cookson and similar soils

3 percent Greylock and similar soils
2 percent Steuben and similar soils

Description of Major Components

Mashek

Typical Profile

A—0 to 6 inches; fine sandy loam
Bs—6 to 11 inches; loamy sand
E/B,B/E—11 to 38 inches; fine sandy loam, loamy sand
2Cd—38 to 63 inches; gravelly fine sandy loam
3C—63 to 80 inches; very gravelly sand

Soil Properties and Qualities

Parent material: Loamy till over sandy and gravelly outwash
Slope: 0 to 4 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: 35 to 50 inches to dense material
Drainage class: Moderately well drained
Available water capacity: About 5.3 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: 1.0 to 3.1 feet (April)
Ponding: None

Land Use

Dominant land use: Forestland

296D—Islandlake-McMillan complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Islandlake and similar soils
35 percent McMillan and similar soils
5 percent Steuben and similar soils
3 percent Kinross and similar soils
2 percent Dawson and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

McMillan

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; fine sandy loam
E—4 to 6 inches; fine sandy loam
Bhs—6 to 9 inches; very fine sandy loam
Bs1—9 to 16 inches; very fine sandy loam
Bs2—16 to 22 inches; loamy fine sand
Bw—22 to 32 inches; sand
E and Bt—32 to 80 inches; stratified sand to loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

296E—Islandlake-McMillan complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

55 percent Islandlake and similar soils
35 percent McMillan and similar soils

5 percent Steuben and similar soils
3 percent Kinross and similar soils
2 percent Dawson and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

McMillan

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; fine sandy loam
E—4 to 6 inches; fine sandy loam
Bhs—6 to 9 inches; very fine sandy loam
Bs1—9 to 16 inches; very fine sandy loam
Bs2—16 to 22 inches; loamy fine sand
Bw—22 to 32 inches; sand
E and Bt—32 to 80 inches; stratified sand to loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None

Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

297B—Rubicon sand, 0 to 6 percent slopes, severely burned

Setting

Landform: Flats and knolls on pitted outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Kinross and similar soils
2 percent Croswell and similar soils

Description of Major Components

Rubicon

Typical Profile

E—0 to 3 inches; sand
Bs1,Bs2,Bs3—3 to 28 inches; sand
BC—28 to 36 inches; sand
C1,C2—36 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

297D—Rubicon sand, 6 to 15 percent slopes, severely burned

Setting

Landform: Flats and knolls on pitted outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Kinross and similar soils
2 percent Croswell and similar soils

Description of Major Components

Rubicon

Typical Profile

E—0 to 3 inches; sand
Bs1,Bs2,Bs3—3 to 28 inches; sand
BC—28 to 36 inches; sand
C1,C2—36 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

298B—Wurtsmith-Deford complex, 0 to 6 percent slopes

Setting

Landform: Outwash plains; beach ridges

Average Map Unit Composition

55 percent Wurtsmith and similar soils
35 percent Deford and similar soils
6 percent Meehan and similar soils
4 percent Shelldrake and similar soils

Description of Major Components

Wurtsmith

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; sand
Bw1,Bw2—4 to 24 inches; sand
BC,C—24 to 80 inches; sand

Soil Properties and Qualities

Parent material: Beach sand
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Deford

Typical Profile

Oa—0 to 4 inches; muck
C—4 to 80 inches; fine sand

Soil Properties and Qualities

Parent material: Beach sand
Slope: 0 to 1 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Available water capacity: About 5.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: At the surface (January, February, March, April, May, October, November, December)
Depth and months of deepest ponding: 0.5 foot (March, April, May, October, November)
Months in which ponding does not occur: January, February, June, July, August, September, December

Land Use

Dominant land use: Forestland

299F—Shelldrake fine sand, 2 to 75 percent slopes

Setting

Landform: Dunes

Average Map Unit Composition

99 percent Shelldrake and similar soils
1 percent Wurtsmith and similar soils

Description of Major Components

Shelldrake

Typical Profile

Oe—0 to 1 inch; slightly decomposed plant material
Oa—1 to 3 inches; highly decomposed plant material
A—3 to 4 inches; fine sand
C—4 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy eolian deposits
Slope: 2 to 75 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

300F—Shelldrake-Dune land complex, 2 to 75 percent slopes

Setting

Landform: Dunes

Average Map Unit Composition

61 percent Shelldrake and similar soils
38 percent Dune land
1 percent Wurtsmith and similar soils

Description of Major Components

Shelldrake

Typical Profile

Oe—0 to 1 inch; slightly decomposed plant material
Oa—1 to 3 inches; highly decomposed plant material
A—3 to 4 inches; fine sand
C—4 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy eolian deposits
Slope: 2 to 75 percent
Hazard of soil blowing: Severe
Surface runoff class: Low

Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Recreation

301F—Cookson-Nykanen complex, 15 to 50 percent slopes, dissected

Setting

Landform: Moraines

Average Map Unit Composition

55 percent Cookson and similar soils
35 percent Nykanen and similar soils
5 percent Ruse and similar soils
3 percent Frohling and similar soils
2 percent Trout Bay and similar soils

Description of Major Components

Cookson

Typical Profile

Oi—0 to 3 inches; slightly decomposed plant material
E—3 to 7 inches; fine sandy loam
Bhs—7 to 11 inches; fine sandy loam
Bs—11 to 16 inches; sandy loam
2E—16 to 21 inches; fine sandy loam
2Bt—21 to 31 inches; fine sandy loam
2BC—31 to 36 inches; fine sandy loam
3R—36 inches; bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 15 to 50 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Available water capacity: About 5.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Nykanen

Typical Profile

A—0 to 4 inches; very fine sandy loam
BA—4 to 14 inches; very fine sandy loam
2Cr—14 to 25 inches; weathered bedrock
2R—25 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Loamy till
Slope: 15 to 45 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 32 inches to lithic bedrock
Drainage class: Moderately well drained
Available water capacity: About 2.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 1.0 to 1.2 feet (April, July, October)
Ponding: None

Land Use

Dominant land use: Forestland

302B—Dillingham-Kalkaska complex, 1 to 6 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

45 percent Dillingham and similar soils
40 percent Kalkaska and similar soils
10 percent Yalmer and similar soils
5 percent Halfaday and similar soils

Description of Major Components

Dillingham

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 8 inches; loamy sand
Bhs—8 to 11 inches; loamy fine sand
Bs—11 to 21 inches; loamy fine sand
E/Bx—21 to 31 inches; loamy sand, sandy loam
C—31 to 80 inches; stratified loamy sand to loamy fine sand to sand

Soil Properties and Qualities

Parent material: Sandy till
Slope: 1 to 6 percent

Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 16 to 28 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 1 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

302D—Dillingham-Kalkaska complex, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

52 percent Dillingham and similar soils
45 percent Kalkaska and similar soils
2 percent Dawson and similar soils
1 percent Voelker and similar soils

Description of Major Components

Dillingham

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 8 inches; loamy sand
Bhs—8 to 11 inches; loamy sand
Bs—11 to 21 inches; loamy fine sand
E/Bx—21 to 31 inches; fine sand, loamy fine sand
C—31 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Medium
Potential for frost action: Low
Depth to restrictive feature: 16 to 28 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

302E—Dillingham-Kalkaska complex, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

50 percent Dillingham and similar soils
40 percent Kalkaska and similar soils
5 percent Dawson and similar soils
3 percent Alcona and similar soils
2 percent Voelker and similar soils

Description of Major Components

Dillingham

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 8 inches; loamy sand
Bhs—8 to 11 inches; loamy sand
Bs—11 to 21 inches; loamy fine sand
E/Bx—21 to 31 inches; fine sand, loamy fine sand
C—31 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Low
Depth to restrictive feature: 16 to 28 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Severe
Surface runoff class: Low

Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

302F—Dillingham-Kalkaska complex, 35 to 70 percent slopes

Setting

Landform: Disintegration moraines

Average Map Unit Composition

50 percent Dillingham and similar soils
40 percent Kalkaska and similar soils
5 percent Dawson and similar soils
3 percent Alcona and similar soils
2 percent Voelker and similar soils

Description of Major Components

Dillingham

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 8 inches; loamy sand
Bhs—8 to 11 inches; loamy sand
Bs—11 to 21 inches; loamy fine sand
E/Bx—21 to 31 inches; fine sand, loamy fine sand
C—31 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits
Slope: 35 to 70 percent
Hazard of soil blowing: Moderate
Surface runoff class: High
Potential for frost action: Low
Depth to restrictive feature: 16 to 28 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 35 to 70 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

303B—Kiva-Trenary fine sandy loams, 1 to 6 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

55 percent Kiva and similar soils
30 percent Trenary and similar soils
5 percent Blue Lake and similar soils
5 percent Islandlake and similar soils
5 percent Traunik and similar soils

Description of Major Components

Kiva

Typical Profile

A—0 to 3 inches; fine sandy loam
E—3 to 6 inches; loamy sand
Bs1—6 to 15 inches; fine sandy loam
2Bs2—15 to 23 inches; gravelly loamy sand
2BC,2C—23 to 80 inches; stratified sand to very gravelly sand to gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy outwash
Slope: 1 to 6 percent

Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Trenary

Typical Profile

A—0 to 2 inches; fine sandy loam
E—2 to 6 inches; fine sandy loam
Bhs—6 to 12 inches; fine sandy loam
Bs—12 to 17 inches; fine sandy loam
E´—17 to 26 inches; sandy loam
Bt—26 to 37 inches; loam
C—37 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Till
Slope: 1 to 6 percent
Hazard of soil blowing: Slight
Surface runoff class: Low
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 8.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Cropland, pasture

303D—Kiva-Trenary fine sandy loams, 6 to 15 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

55 percent Kiva and similar soils
30 percent Trenary and similar soils
5 percent Blue Lake and similar soils
5 percent Islandlake and similar soils
5 percent Traunik and similar soils

Description of Major Components

Kiva

Typical Profile

A—0 to 3 inches; fine sandy loam
E—3 to 6 inches; loamy sand
Bs1—6 to 15 inches; fine sandy loam
2Bs2—15 to 23 inches; gravelly loamy sand
2BC,2C—23 to 80 inches; stratified sand to very gravelly sand to gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Trenary

Typical Profile

A—0 to 2 inches; fine sandy loam
E—2 to 6 inches; fine sandy loam
Bhs—6 to 12 inches; fine sandy loam
Bs—12 to 17 inches; fine sandy loam
E´—17 to 26 inches; sandy loam
Bt—26 to 37 inches; loam
C—37 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Till
Slope: 6 to 15 percent
Hazard of soil blowing: Slight
Surface runoff class: Medium
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 8.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

303E—Kiva-Trenary fine sandy loams, 15 to 35 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

55 percent Kiva and similar soils
30 percent Trenary and similar soils
5 percent Blue Lake and similar soils
5 percent Islandlake and similar soils
5 percent Traunik and similar soils

Description of Major Components

Kiva

Typical Profile

A—0 to 3 inches; fine sandy loam
E—3 to 6 inches; loamy sand
Bs1—6 to 15 inches; fine sandy loam
2Bs2—15 to 23 inches; gravelly loamy sand
2BC,2C—23 to 80 inches; stratified sand to very gravelly sand to gravelly sand

Soil Properties and Qualities

Parent material: Loamy eolian deposits over sandy outwash
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 3.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderate
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Trenary

Typical Profile

A—0 to 2 inches; fine sandy loam
E—2 to 6 inches; fine sandy loam
Bhs—6 to 12 inches; fine sandy loam
Bs—12 to 17 inches; fine sandy loam
E´—17 to 26 inches; sandy loam
Bt—26 to 37 inches; loam
C—37 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Till
Slope: 15 to 35 percent
Hazard of soil blowing: Slight
Surface runoff class: High

Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 8.4 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Pasture

305B—Wurtsmith-Meehan sands, 0 to 8 percent slopes

Setting

Landform: Outwash plains; beach ridges

Average Map Unit Composition

55 percent Wurtsmith and similar soils
40 percent Meehan and similar soils
3 percent Deford and similar soils
2 percent Shelldrake and similar soils

Description of Major Components

Wurtsmith

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
E—1 to 4 inches; sand
Bw1,Bw2—4 to 24 inches; sand
BC,C—24 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 1 to 8 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 2.0 to 6.7 feet (April, May)
Ponding: None

Meehan

Typical Profile

Oa—0 to 3 inches; moderately decomposed plant material
A—3 to 5 inches; sand

Bw—5 to 28 inches; sand
C—28 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy outwash
Slope: 0 to 3 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Moderate
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 0.5 foot to 6.7 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

306C—Deerton-Tokiahok-Jeske complex, 1 to 12 percent slopes, dissected

Setting

Landform: Benches

Average Map Unit Composition

35 percent Deerton and similar soils
30 percent Tokiahok and similar soils
20 percent Jeske and similar soils
5 percent Yalmer and similar soils
4 percent Gongeau and similar soils
2 percent Abbaye and similar soils
2 percent Au Train and similar soils
2 percent Jacobsville and similar soils

Description of Major Components

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 1 to 12 percent
Hazard of soil blowing: Severe
Surface runoff class: Low

Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Tokiahok

Typical Profile

Oa—0 to 2 inches; highly decomposed plant material
E—2 to 11 inches; loamy fine sand
Bhs—11 to 15 inches; loamy fine sand
Bs—15 to 24 inches; loamy fine sand
2E/Bx,2B/Ex—24 to 59 inches; sandy loam
2BC,2C—59 to 80 inches; sandy loam

Soil Properties and Qualities

Parent material: Sandy outwash over loamy till
Slope: 6 to 12 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to a fragipan
Drainage class: Well drained
Available water capacity: About 3.4 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Very slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Jeske

Typical Profile

Oe,Oa—0 to 3 inches; highly decomposed plant material
C1,C2—3 to 21 inches; sand
2Cr—21 to 31 inches; weathered bedrock
2R—31 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits and sandy residuum
Slope: 1 to 10 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Moderate
Depth to restrictive feature: 10 to 23 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained

Available water capacity: About 2.5 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: 0.5 foot to 1.7 feet (May)
Ponding: None

Land Use

Dominant land use: Forestland

307B—Rubicon sand, 0 to 6 percent slopes, very deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

307D—Rubicon sand, 6 to 15 percent slopes, very deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 8.3 to 15.0 feet (June)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

308B—Rubicon-Sultz complex, 0 to 6 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

55 percent Rubicon and similar soils
40 percent Sultz and similar soils
3 percent Croswell and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Sultz

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 2 inches; fine sand
E—2 to 6 inches; fine sand
Bs—6 to 18 inches; fine sand
C1—18 to 51 inches; fine sand
2C2,2C3—51 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Eolian sands over sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

308D—Rubicon-Sultz complex, 6 to 15 percent slopes

Setting

Landform: Outwash plains

Average Map Unit Composition

55 percent Rubicon and similar soils
40 percent Sultz and similar soils
3 percent Croswell and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Sultz

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 2 inches; fine sand
E—2 to 6 inches; fine sand
Bs—6 to 18 inches; fine sand
C1—18 to 51 inches; fine sand
2C2,2C3—51 to 80 inches; loamy very fine sand

Soil Properties and Qualities

Parent material: Eolian sands over sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Available water capacity: About 4.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Moderately slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

309B—Rubicon sand, 0 to 6 percent slopes, deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 4.3 to 15.0 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

309D—Rubicon sand, 6 to 15 percent slopes, deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Rubicon and similar soils
3 percent Au Gres and similar soils
2 percent Kinross and similar soils

Description of Major Components

Rubicon

Typical Profile

Oi—0 to 2 inches; slightly decomposed plant material
E—2 to 7 inches; sand
Bs—7 to 32 inches; sand
BC—32 to 40 inches; sand
C—40 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Available water capacity: About 3.2 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 4.3 to 15.0 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

310B—Kalkaska sand, 0 to 6 percent slopes, burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland

310D—Kalkaska sand, 6 to 15 percent slopes, burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 6 to 15 percent

Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

310E—Kalkaska sand, 15 to 50 percent slopes, burned

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits; sandy outwash
Slope: 15 to 50 percent
Hazard of soil blowing: Severe
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

311B—Kalkaska sand, 0 to 6 percent slopes, very deep water table, burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland

311D—Kalkaska sand, 6 to 15 percent slopes, very deep water table, burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

312B—Islandlake sand, 0 to 6 percent slopes, burned

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent

Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

312D—Islandlake sand, 6 to 15 percent slopes, burned

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent McMillan and similar soils
2 percent Greylock and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

313B—Kalkaska sand, 0 to 6 percent slopes, deep water table, burned

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

314B—Blue Lake loamy sand, 0 to 6 percent slopes, very deep water table, burned

Setting

Landform: Moraines

Average Map Unit Composition

95 percent Blue Lake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Blue Lake

Typical Profile

E—0 to 5 inches; loamy sand
Bhs—5 to 7 inches; loamy sand
Bs—7 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland

315B—Blue Lake loamy sand, 0 to 6 percent slopes, deep water table, burned

Setting

Landform: Moraines

Average Map Unit Composition

95 percent Blue Lake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Blue Lake

Typical Profile

E—0 to 5 inches; loamy sand
Bhs—5 to 7 inches; loamy sand
Bs—7 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: 4.3 to 15.0 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

316B—Blue Lake loamy sand, 0 to 6 percent slopes, burned

Setting

Landform: Moraines

Average Map Unit Composition

95 percent Blue Lake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Blue Lake

Typical Profile

E—0 to 5 inches; loamy sand
Bhs—5 to 7 inches; loamy sand
Bs—7 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

316D—Blue Lake loamy sand, 6 to 15 percent slopes, burned

Setting

Landform: Moraines

Average Map Unit Composition

95 percent Blue Lake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Blue Lake

Typical Profile

E—0 to 5 inches; loamy sand
Bhs—5 to 7 inches; loamy sand
Bs—7 to 27 inches; loamy sand
E/B,E and B—27 to 80 inches; sand

Soil Properties and Qualities

Parent material: Sandy till (supraglacial)
Slope: 6 to 15 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Available water capacity: About 4.9 inches to a depth of 60 inches
Shrink-swell potential: Moderate
Permeability: Moderately rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

317B—Kalkaska sand, 0 to 6 percent slopes, very deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland

317D—Kalkaska sand, 6 to 15 percent slopes, very deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland

318B—Islandlake sand, 0 to 6 percent slopes, very deep water table

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None

Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

318D—Islandlake sand, 6 to 15 percent slopes, very deep water table

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 7.9 to 15.0 feet (January, February, June)
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

319B—Islandlake sand, 0 to 6 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

319D—Islandlake sand, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand

Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

319E—Islandlake sand, 15 to 35 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Halfaday and similar soils
2 percent Kinross and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 15 to 35 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches

Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

319F—Islandlake sand, 35 to 60 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

95 percent Islandlake and similar soils
3 percent Kinross and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Islandlake

Typical Profile

Oi—0 to 1 inch; slightly decomposed plant material
AE—1 to 2 inches; sand
E—2 to 8 inches; sand
Bhs—8 to 9 inches; sand
Bs—9 to 41 inches; sand
E and Bt—41 to 80 inches; sand, loamy sand

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits
Slope: 35 to 60 percent
Hazard of soil blowing: Moderate
Surface runoff class: Low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 4.1 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

320B—Kalkaska sand, 0 to 6 percent slopes, deep water table

Setting

Landform: Outwash plains

Average Map Unit Composition

95 percent Kalkaska and similar soils
3 percent Kinross and similar soils
2 percent Finch and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: 4.3 to 15.0 feet (April, May)
Ponding: None

Land Use

Dominant land use: Forestland

321B—Kalkaska-Deerton sands, 0 to 6 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

50 percent Kalkaska and similar soils
45 percent Deerton and similar soils
3 percent Au Train and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 0 to 6 percent
Hazard of soil blowing: Severe
Surface runoff class: Negligible
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 0 to 6 percent
Hazard of soil blowing: Moderate
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

321D—Kalkaska-Deerton sands, 6 to 15 percent slopes

Setting

Landform: Disintegration moraines; outwash plains

Average Map Unit Composition

50 percent Kalkaska and similar soils
45 percent Deerton and similar soils
3 percent Au Train and similar soils
2 percent Halfaday and similar soils

Description of Major Components

Kalkaska

Typical Profile

A—0 to 2 inches; sand
E—2 to 6 inches; sand
Bhs—6 to 8 inches; sand
Bs—8 to 16 inches; sand
BC—16 to 26 inches; sand
C—26 to 80 inches; sand

Soil Properties and Qualities

Parent material: Glaciofluvial deposits; outwash
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Available water capacity: About 3.7 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Rapid
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Deerton

Typical Profile

Oa—0 to 1 inch; highly decomposed plant material
E—1 to 9 inches; sand
Bhs—9 to 10 inches; sand
Bs—10 to 25 inches; sand
2Cr—25 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Soil Properties and Qualities

Parent material: Sandy glaciofluvial deposits over sandy residuum
Slope: 6 to 15 percent
Hazard of soil blowing: Severe
Surface runoff class: Very low
Potential for frost action: Low
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Excessively drained
Available water capacity: About 2.6 inches to a depth of 60 inches
Shrink-swell potential: Low
Permeability: Slow
Flooding: None
Depth to seasonal high water table: More than 6.5 feet
Ponding: None

Land Use

Dominant land use: Forestland
Other uses: Building site development

W—Water

- This map unit consists of naturally occurring bodies of water, such as rivers, streams, lakes, reservoirs, and ponds.

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 as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

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

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Interpretive Ratings

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

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes include *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

Some general information regarding use of the soils for crops and pasture is provided in this section. The estimated yields of the main crops 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 on management practices and other considerations can be obtained from the local office of the Natural Resources Conservation Service, the Soil Conservation District, Michigan State University Extension, or a certified planning professional.

If drainage is planned, care must be taken so that designated wetlands are not affected. Drainage of these areas could violate existing laws and regulations and may jeopardize receipt of USDA benefits. Information about the design of drainage systems and wetland compliance is available in local offices of the Natural Resources Conservation 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 the Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

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

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

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

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units," in the yields table, and under the heading "Interpretive Groups."

In the "Interpretive Groups" section, the Michigan soil management group is listed. The soils in each map unit are assigned to a group according to the dominant texture, the drainage class, and the major management concerns (Mokma and others, 1978). More detailed information about these groups is available from the local office of the Michigan State University Extension.

Prime Farmland

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

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

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 6. 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."

Forestland

Forestland makes up about 480,000 acres in Alger County, or about 79 percent of the total acreage. Federal and State agencies control about 197,000 acres. Forest industry companies and other corporations own and manage about 191,000 acres of privately owned woodland in the county. Private, nonindustrial woodland accounts for about 92,000 acres in the county.

Forestland is the dominant land use on all but a few soil types. Upland soils dominantly support northern hardwoods, including sugar maple, red maple, basswood, yellow birch, beech, white pine, and hemlock (fig. 6). Black cherry, balsam fir, quaking aspen, and white spruce are minor components in some stands. There are also numerous red pine and jack pine plantations, mainly on Forest Service property, such as the sand plains south of Wetmore. These areas once supported virgin stands of white pine, red pine, or jack pine. After logging, many of these sites were burned and were eventually reforested during the Civilian Conservation Corps (CCC) camp days.

Stands on the wetter mineral soils are predominantly red maple, quaking aspen, paper birch, balsam fir, and hemlock. Wooded swamps support mostly balsam fir, black spruce, northern white-cedar, and tamarack. Red maple, quaking aspen, hemlock, paper birch, and black ash are in some stands. Composition of forestland by forest type in 1980 was 67 percent maple-birch and other upland hardwoods, 11 percent pine, 6 percent spruce-fir, 7 percent white cedar, 4 percent ash and other lowland hardwoods, 4.5 percent aspen-birch, and 0.5 percent nonstocked areas. Composition of forestland by stand size in 1980 was 38 percent sawtimber, 45 percent poletimber, 17 percent sapling and seedling stands, and 0.5 percent nonstocked areas.

Pulpwood and sawlogs used for lumber are the major wood products in the county. Some logs are also harvested for use as veneer, telephone poles, and cabin logs. The majority of the pulpwood harvested is transported outside the county for processing at paper mills. A large sawmill and veneer mill processes most of the saw logs harvested in the county. Also, several small sawmills in the county process

Figure 6.—Northern hardwoods in an area of Shoepac-Trenary silt loams, 1 to 6 percent slopes. Sugar maple is the dominant tree species in areas of these soils.

sawlogs for lumber. Portable sawmills are occasionally used to process logs into lumber at the logging site. Other important woodland products are firewood, poles and posts, and maple syrup. Minor woodland products produced in the county include Christmas trees, pallets, stakes, signs, and wood paneling.

The forest products industry is an important employer in Alger County. The harvest, transportation, and processing of wood are important parts of the economy. Productive soils, a good transportation system, proximity to wood-processing industries, and a large volume of growing stock ensure future economic potential for the forest products industry in Alger County.

Forestland Management and Productivity

Table 7 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils suitable for wood crops are listed.

Erosion hazard ratings are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Site preparation ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as *well suited, poorly suited,* or *unsuited* to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage (fig. 7). The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Seedling mortality ratings are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a *low, moderate,* or *high* potential for seedling mortality.

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 woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are suitable for commercial wood production.

Figure 7.—Windthrow in an area of Munising-Yalmer complex, 1 to 6 percent slopes. Rooting depth is limited by a fragipan in areas of these soils.

Forestland Harvesting

Table 8 provides expanded information concerning the operability of harvesting equipment. The table gives information about operating harvesting or thinning equipment in logging areas and on skid roads, log landings, and haul roads. Limitations are given for the most limiting season and for the preferred operating season. The most limiting season in this survey area generally is spring or late fall. In some areas, however, it is during dry periods in summer, when loose sand can limit trafficability on deep, excessively drained, sandy soils.

The preferred operating season is the period when harvesting or thinning causes the least amount of soil damage. This period generally is when the soil is not too wet or when the ground is frozen or partly frozen or has an adequate snow cover.

For limitations affecting construction of *haul roads*, the ratings are based on slope, flooding, 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 soils are described as well suited, moderately suited, and poorly suited. A rating of *well suited* indicates that no significant limitations affect construction activities, *moderately suited* indicates that one or more limitations can cause some difficulty in construction, and *poorly suited* 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 *logging areas and skid roads* 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.

Forest Habitat Types

The information in this section is derived from the field guide to the habitat classification system for the Upper Peninsula of Michigan and northeast Wisconsin (Coffman and others, 1980). The system of habitat classification used in the guide is based on the concept that plants occur in predictable patterns or communities and that these communities reflect differences in site characteristics.

Besides identifying the various habitat types by means of vegetative keys, the guide also provides information about the different possible successional stages for most of the habitat types. The successional stages depend largely on how the forest has been disturbed. They include the succession after logging in the original climax stands, the succession after logging in second-growth stands, and the succession in stands that have been both logged and burned.

The guide gives the suggested forest management for each of the successional stages. This management includes methods of thinning and harvest, site preparation, and measures that improve regeneration of the stands. The potential productivity in terms of a site index and mean annual volume in cubic feet per acre per year is given for most of the habitat types. The development of the descriptive or interpretive information for some of the habitat types, however, is based on limited data; therefore, the information should be used with caution.

Habitat types have been determined for each map unit in the survey area, with the exception of miscellaneous areas. The primary habitat type is the one that is most common on the map unit. The secondary habitat type is less common. Habitat types are listed under the heading “Interpretive Groups.” The following paragraphs describe the habitat types. They provide information about the potential climax species, some of the common understory species, and, if known, the potential productivity of the habitat type.

AOC—Acer-Osmorhiza-Caulophyllum habitat type. This habitat type has a potential climax overstory dominated by sugar maple. Other species include eastern hemlock and American basswood. American elm, white ash, and eastern hophornbeam are in some areas. The dominant ground flora includes spinulose shield fern, blue cohosh, sweet cicely, ladyfern, smooth yellow violet, Canada white violet, and downy yellow violet. The potential productivity for northern hardwoods is high.

AQV—Acer-Quercus-Vaccinium habitat type. This habitat type has a potential climax overstory dominated by red maple and red oak. Other species include eastern

hemlock, white pine, balsam fir, and white spruce. The dominant ground flora includes lowbush blueberry, Canada blueberry, brackenfern, wintergreen, bigleaf aster, and hazelnut. The potential productivity is moderately low for northern hardwoods, moderate for aspen, and moderately high for red pine and jack pine.

ATD—Acer-Tsuga-Dryopteris habitat type. This habitat type has a potential climax overstory dominated by sugar maple. Other species include eastern hemlock and American basswood. Yellow birch, red maple, American beech, and American elm are in some areas. The dominant ground flora includes spinulose shield fern, rosy twisted stalk, hairy Solomon's seal, red elderberry, and wild lily-of-the-valley. The potential productivity is moderately high for northern hardwoods and high for aspen. The potential productivity for red pine plantations is high if plant competition is controlled.

ATD-CI—Acer-Tsuga-Dryopteris habitat type, Circaea-Impatiens phase. This habitat type is commonly located within upland drainage systems. It has a potential climax overstory dominated by sugar maple. Other species include eastern hemlock and American basswood. Yellow birch, red maple, American beech, and American elm are in some areas. The dominant ground flora includes spinulose shield fern, rosy twisted stalk, hairy Solomon's seal, red elderberry, wild lily-of-the-valley, jewelweed, and dwarf enchanter's nightshade. The potential productivity is moderately high for northern hardwoods and high for aspen. The potential productivity for red pine plantations is high if plant competition is controlled.

ATD-D—Acer-Tsuga-Dryopteris habitat type, Dryopteris phase. This habitat type has a potential climax overstory dominated by sugar maple. Other species include eastern hemlock and American basswood. Yellow birch, red maple, American beech, and American elm are in some areas. The dominant ground flora includes spinulose shield fern, rosy twisted stalk, hairy Solomon's seal, red elderberry, and wild lily-of-the-valley. The potential productivity is moderately high for northern hardwoods and high for aspen. The potential productivity for red pine plantations is high if plant competition is controlled.

AVO—Acer-Viola-Osmorhiza habitat type. This habitat type has a potential climax overstory dominated by sugar maple. Other species include American basswood, white ash, yellow birch, eastern hophornbeam, eastern hemlock, and American elm. The dominant ground flora includes Canada white violet, downy yellow violet, smooth yellow violet, sweet cicely, spinulose shield fern, ladyfern, hairy Solomon's seal, and rosy twisted stalk. The potential productivity is high for northern hardwoods and aspen. It also is high for red pine plantations if plant competition is controlled.

AVO-A—Acer-Viola-Osmorhiza habitat type, Adiantum phase. This habitat type has a potential climax overstory dominated by sugar maple. Other species include American basswood, white ash, yellow birch, eastern hophornbeam, eastern hemlock, and American elm. The dominant ground flora includes Canada white violet, sweet cicely, spinulose woodfern, wild leek, maidenhair fern, ladyfern, hairy Solomon's seal, and rosy twisted stalk. The potential productivity is high for northern hardwoods and aspen. It also is high for red pine plantations if plant competition is controlled.

AVO-CI—Acer-Viola-Osmorhiza habitat type, Circaea-Impatiens phase. This habitat type commonly occurs within upland drainage systems. It has a potential climax overstory dominated by sugar maple. Other species include American basswood, white ash, yellow birch, hophornbeam, eastern hemlock, and American elm. The dominant ground flora includes Canada white violet, downy yellow violet, smooth yellow violet, sweet cicely, spinulose shield fern, ladyfern, hairy Solomon's seal, rosy twisted stalk, jewelweed, and dwarf enchanter's nightshade. The potential productivity is high for northern hardwoods and aspen. It also is high for red pine plantations if plant competition is controlled.

FI—Fraxinus-Impatiens habitat type. This habitat type has a potential climax overstory dominated by white ash and red maple. Other species include sugar maple, black ash, and balsam fir. The dominant ground flora includes jewelweed, sedges, dwarf enchanter's nightshade, spinulose shield fern, ladyfern, red elderberry, and field mint. The potential productivity for northern hardwoods is moderate.

FMC—Fraxinus-Mentha-Carex habitat type. This habitat type has a potential climax overstory dominated by black ash and American elm. Other species include red maple and balsam fir. The dominant ground flora includes sedges, field mint, speckled alder, and jewelweed.

FMC-C—Fraxinus-Mentha-Carex habitat type, Carex phase. This habitat type has a potential climax overstory dominated by black ash and American elm. Other species include balsam fir and red maple. The dominant ground flora includes sedges, field mint, speckled alder, and jewelweed. This phase is mostly limited to active flood plains where trees generally do not grow.

PCS—Picea-Chamaedaphne-Sphagnum habitat type. This habitat type has a potential climax overstory dominated by black spruce. Other species include tamarack and northern white-cedar. The dominant ground flora includes leatherleaf, bog rosemary, pale laurel, sphagnum mosses, Labrador tea, sedges, and Canada blueberry.

PO—Picea-Osmunda habitat type. This habitat type has a potential climax overstory dominated by black spruce and northern white-cedar. Other species include eastern hemlock and white pine. The dominant ground flora includes cinnamon fern, sphagnum mosses, sedges, marsh marigold, and goldthread.

PVC—Pinus-Vaccinium-Carex habitat type. This habitat type has a potential climax overstory dominated by jack pine. Other species include red pine, black spruce, and white pine. The dominant ground flora consists of sedge, low sweet blueberry, brackenfern, trailing arbutus, reindeer moss, hairgrass, and wintergreen.

PVD—Pinus-Vaccinium-Deschampsia habitat type. This habitat type has a potential climax overstory dominated by jack pine. Other species include red pine and white pine. The dominant ground flora consists of hairgrass, sedge, reindeer moss, sweetfern, lowbush blueberry, brackenfern, and trailing arbutus. The potential productivity is moderately low for red pine and moderate for jack pine.

QAE—Quercus-Acer-Epigaea habitat type. This habitat type has a potential climax overstory dominated by red oak and red maple. Other species include white spruce and white pine. The dominant ground flora consists of brackenfern, trailing arbutus, wintergreen, lowbush blueberry, mosses, and Canada blueberry. The potential productivity is moderately low for aspen and moderate for red pine and jack pine.

TM—Tsuga-Maianthemum habitat type. This habitat type has a potential climax overstory dominated by eastern hemlock, sugar maple, and red maple. Other species include yellow birch, white spruce, balsam fir, eastern white pine, northern red oak, northern white-cedar, and American basswood. The dominant ground flora includes wild lily-of-the-valley, brackenfern, sedges, American starflower, and wild sarsaparilla. The potential productivity is moderate for northern hardwoods, moderately high for aspen, and high for red pine and jack pine.

TMC—Tsuga-Maianthemum-Coptis habitat type. This habitat type has a potential climax overstory dominated by eastern hemlock and red maple. Yellow birch is common. Other species include balsam fir, white spruce, and northern white-cedar. The dominant ground flora includes wild lily-of-the-valley, goldthread, yellow beadlily, bunchberry, American starflower, wood sorrel, and spinulose shield fern. The potential productivity is moderate for northern hardwoods and aspen.

TMC-D—Tsuga-Maianthemum-Coptis habitat type, Dryopteris phase. This habitat type has a potential climax overstory dominated by eastern hemlock and red maple. Sugar maple and yellow birch are common. Other species include balsam fir,

white spruce, and northern white-cedar. The dominant ground flora includes wild lily-of-the-valley, goldthread, yellow beadlily, bunchberry, American starflower, spinulose shield fern, long beech fern, oak fern, wood sorrel, and hairy Solomon's seal. The potential productivity is moderate for northern hardwoods and aspen.

TMC-V—Tsuga-Maianthemum-Coptis habitat type, Vaccinium phase. This habitat type has a potential climax overstory dominated by eastern hemlock and red maple. Yellow birch is common. Other species include balsam fir, white spruce, and northern white-cedar. The dominant ground flora includes wild lily-of-the-valley, goldthread, yellow beadlily, bunchberry, American starflower, Canada blueberry, lowbush blueberry, wood sorrel, and spinulose shield fern. The potential productivity is moderate for northern hardwoods and aspen.

TMV—Tsuga-Maianthemum-Vaccinium habitat type. This habitat type has a potential climax overstory dominated by eastern hemlock and red maple. Other species include sugar maple, eastern white pine, balsam fir, white spruce, and northern red oak. The dominant ground flora includes Canada blueberry, wild sarsaparilla, brackenfern, wild lily-of-the-valley, lowbush blueberry, yellow beadlily, and wood betony. The potential productivity is moderate for northern hardwoods, moderately high for aspen, and high for red pine and jack pine.

TTM—Tsuga-Thuja-Mitella habitat type. This habitat type has a potential climax overstory dominated by northern white-cedar and eastern hemlock. Other species include balsam fir and red maple. The dominant ground flora includes naked miterwort, sedges, wild lily-of-the-valley, American starflower, twinflower, fringed polygala, sphagnum mosses, and bunchberry.

TTS—Tsuga-Thuja-Sphagnum habitat type. This habitat type has a potential climax overstory dominated by eastern hemlock and northern white-cedar. Other species include balsam fir, black spruce, and red maple. The dominant ground flora includes sphagnum mosses, goldthread, bunchberry, sedges, wild lily-of-the-valley, American starflower, horsetails, and wood sorrel.

Forestland Plant Communities

Table 9 lists the habitat type and the characteristic vegetation typically associated with selected soils in the survey area. The common plant names are those on a national list of plant names (USDA/NRCS, PLANTS database).

Recreation

The soils of the survey area are rated in tables 10a and 10b 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 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the 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 10a and 10b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after

vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

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

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

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, timothy, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bunchberry dogwood, shield fern, goldenrod, lambsquarters, and dandelion.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and

wetness. Examples of these plants are oak, aspen, cherry, maple, beech, apple, hawthorn, dogwood, beaked hazelnut, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, and cedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, marsh marigold, cinnamon fern, jewelweed, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include sharp-tailed grouse, bobolink, field sparrow, kestrel, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the “Soil Properties” section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

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

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

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 12a and 12b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, and shallow excavations.

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 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and

on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Sanitary Facilities

Tables 13a and 13b 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 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the

movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 14a and 14b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

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 14a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not

evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 14b, 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 the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

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

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

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by

slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 15a and 15b give 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; aquifer-fed excavated ponds; grassed waterways; and drainage. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, a cemented pan, or other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Soil Properties

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

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

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

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

Engineering Index Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

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

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

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

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

Physical Properties of the Soils

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

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

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

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

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). 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.

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

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

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

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/).

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 of the Soils

Table 18 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

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.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Soil Features

Table 19 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, ortstein, dense layers, and frozen layers. The table indicates the thickness and hardness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of

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

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

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

Water Features

Soil moisture status is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

Table 20 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most commonly. *Dry* indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. *Moist* indicates a moisture condition under which soil water is most readily available for plant growth. *Wet* indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0–6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

Table 21 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.

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

Water table refers to a saturated zone in the soil. Table 21 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.

Table 21 also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

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

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

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

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

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Glossudalfs (*Gloss*, meaning tongue, plus *udalfs*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Haplic Glossudalfs.

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, frigid Haplic Glossudalfs.

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

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in

the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. The official pedon description and the range of important characteristics are available online at http://soils.usda.gov.

Abbaye Series

The Abbaye series consists of moderately deep, moderately well drained soils on bedrock-controlled ground moraines. These soils formed in loamy till. Permeability is moderate. Slopes range from 1 to 12 percent.

Typical pedon of Abbaye sandy loam; 1,200 feet south and 2,550 feet west of the northeast corner of sec. 33, T. 52 N., R. 33 W., Baraga Township, Baraga County, Michigan:

Oi—0 to 2 inches; recent hardwood litter.

A—2 to 4 inches; dark reddish brown (5YR 2/2) sandy loam, gray (5YR 5/1) dry; weak fine granular structure; friable; many roots; about 5 percent gravel; very strongly acid; abrupt smooth boundary.

E—4 to 13 inches; brown (7.5YR 5/2) loamy sand; weak medium subangular blocky structure; friable; many roots; about 5 percent gravel; strongly acid; clear irregular boundary.

Bs1—13 to 18 inches; dark reddish brown (5YR 3/4) sandy loam; moderate medium subangular blocky structure; friable; few roots; few fragments of strongly cemented ortstein; about 5 percent gravel; strongly acid; clear irregular boundary.

Bs2—18 to 25 inches; reddish brown (5YR 4/4) sandy loam; moderate medium subangular blocky structure; friable; few roots; common medium distinct strong brown (7.5YR 4/6) masses of iron accumulation below a depth of 20 inches; about 5 percent gravel; moderately acid; clear wavy boundary.

B/E´—25 to 32 inches; dark reddish brown (2.5YR 3/4) sandy loam (Bt); occupies about 85 percent of the horizon; surrounded by reddish brown (5YR 5/3) loamy sand (E´); weak coarse subangular blocky structure; firm; common medium distinct strong brown (7.5YR 4/6) masses of iron accumulation; about 5 percent gravel; moderately acid; abrupt smooth boundary.

2R—32 inches; sandstone bedrock.

Au Gres Series

The Au Gres series consists of very deep, somewhat poorly drained soils on ground moraines, lake plains, and outwash plains. These soils formed in sandy deposits. Permeability is rapid. Slopes range from 0 to 3 percent.

Typical pedon of Au Gres sand, in an area of Au Gres-Dawson-Rubicon complex, 0 to 35 percent slopes; 2,000 feet east and 400 feet south of the northwest corner of sec. 28, T. 49 N., R. 8 W., McMillan Township, Luce County, Michigan; USGS Betsy Lake SW, Michigan, topographic quadrangle:

Oe—0 to 2 inches; partially decomposed forest litter; massive; friable; many fine to coarse roots; extremely acid; abrupt wavy boundary.

E—2 to 7 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/2) dry; weak medium subangular blocky structure; friable; common fine to coarse roots; extremely acid; abrupt wavy boundary.

Bs1—7 to 12 inches; 90 percent strong brown (7.5YR 4/6) and 10 percent dark brown (7.5YR 3/4) sand; weak medium subangular blocky structure; friable; many fine to coarse roots; ortstein occupies 10 percent of the horizon and is moderately cemented; ortstein occurs as dark brown (7.5YR 3/4) tongues 2 to 4 inches wide extending to a depth of 15 inches; few fine faint strong brown (7.5YR 5/6) masses of iron accumulation; extremely acid; clear wavy boundary.

Bs2—12 to 17 inches; strong brown (7.5YR 5/6) sand; weak medium subangular blocky structure; friable; few fine to coarse roots; ortstein occupies 25 percent of the horizon and is moderately cemented; ortstein occurs as strong brown (7.5YR 5/6) and dark brown (7.5YR 3/4) tongues 1 to 4 inches wide extending to a depth of 24 inches; common fine distinct yellowish red (5YR 5/8) masses of iron accumulation; very strongly acid; clear wavy boundary.

BC—17 to 28 inches; brown (7.5YR 5/4) sand; weak medium subangular blocky structure; friable; common fine faint strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

C1—28 to 52 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; strongly acid; clear wavy boundary.

C2—52 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid.

Au Train Series

The Au Train series consists of shallow, moderately well drained soils on bedrock-controlled moraines. These soils formed in sandy glaciofluvial deposits and sandy residuum. Permeability is rapid. Slopes range from 1 to 18 percent.

Typical pedon of Au Train coarse sand, in an area of Jeske-Au Train-Gongeau complex, 0 to 8 percent slopes; about 1,000 feet south and 2,600 feet west of the northeast corner of sec. 27, T. 47 N., R. 20 W., Onota Township, Alger County, Michigan; USGS Au Train, Michigan, topographic quadrangle; lat. 46 degrees 26 minutes 47.24 seconds N. and long. 86 degrees 47 minutes 25.15 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed leaf litter; weak fine granular structure; very friable; many fine and medium and few very coarse roots; extremely acid; abrupt wavy boundary.

E—2 to 9 inches; reddish gray (5YR 5/2) coarse sand, light gray (5YR 7/1) dry; moderate medium subangular blocky structure; friable; few fine to coarse roots; extremely acid; abrupt wavy boundary.

Bhs—9 to 14 inches; dark reddish brown (5YR 2.5/2) coarse sand; weak fine subangular blocky structure; friable; about 20 percent of the horizon is strongly cemented, dark reddish brown (5YR 2.5/2) ortstein that occurs intermittently on a horizontal plane; few fine to coarse roots; extremely acid; clear wavy boundary.

Cr—14 to 32 inches; reddish brown (5YR 5/3), highly weathered sandstone; extremely acid; gradual smooth boundary.

R—32 inches; brown (10YR 4/3) sandstone bedrock.

Blue Lake Series

The Blue Lake series consists of very deep, well drained soils on outwash plains and disintegration moraines. These soils formed in sandy till. Permeability is rapid. Slopes range from 1 to 70 percent.

Typical pedon of Blue Lake loamy sand (fig. 8), in an area of Kalkaska-Blue Lake complex, 1 to 6 percent slopes; 2,000 feet east and 300 feet south of the northwest corner of sec. 8, T. 45 N., R. 20 W., Au Train Township, Alger County, Michigan; USGS Forest Lake, Michigan, topographic quadrangle; lat. 46 degrees 18 minutes 57 seconds N. and long. 86 degrees 50 minutes 32 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed forest litter; abrupt smooth boundary.

E—2 to 7 inches; brown (7.5YR 5/3) loamy sand, pinkish gray (7.5YR 7/2) dry; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 4 percent gravel and 3 percent cobbles; very strongly acid; abrupt wavy boundary.

Bhs—7 to 9 inches; very dark brown (7.5YR 2.5/2) loamy sand; weak medium subangular blocky structure; friable; dark reddish brown (5YR 3/2) moderately cemented ortstein occupies 20 percent (8 of 40 inches) of the horizon; ortstein extends into the Bs horizon as discontinuous tongues; many very fine to course roots; about 4 percent gravel and 3 percent cobbles; very strongly acid; clear wavy boundary.

Bs—9 to 27 inches; brown (7.5YR 4/4) loamy sand; weak medium subangular blocky structure; friable; common very fine to coarse roots; about 4 percent gravel and 3 percent cobbles; very strongly acid; clear wavy boundary.

E/B—27 to 47 inches; reddish brown (5YR 5/4) loamy fine sand, pinkish gray (5YR 7/2) dry (E); occupies about 60 percent of the horizon; surrounding isolated remnants of red (2.5YR 4/6) fine sandy loam (Bt); moderate thick platy structure; firm; few very fine and fine roots; few faint reddish brown (2.5YR 4/4) clay bridges between sand grains; few faint reddish brown (2.5YR 4/4) clay films on ped

Figure 8.—Profile of Blue Lake loamy sand. Lamellae occur at a depth of 32 to 50 inches.

surfaces; common fine vesicular pores; few very fine and fine roots; about 5 percent gravel; very strongly acid; gradual wavy boundary.

E´ and Bt—47 to 80 inches; brown (7.5YR 5/4) sand, pinkish gray (7.5YR 7/2) dry (E´); weak fine subangular blocky structure; very friable; lamellae of red (2.5YR 4/6) loamy sand (Bt); weak thick platy structure; friable; lamellae are 1/8 to 1/2 inch thick; total accumulation is more than 6 inches; few very fine and fine roots; about 3 percent gravel; strongly acid.

Buckroe Series

The Buckroe series consists of shallow, excessively drained soils on bedrock benches. These soils formed in sandy and channery glaciofluvial deposits overlying sandstone bedrock. Permeability is very rapid. Slopes range from 0 to 70 percent.

Typical pedon of Buckroe very channery loamy sand, in an area of Buckroe-Rock outcrop complex, 6 to 25 percent slopes, very bouldery; 600 feet north and 2,300 feet east of the southwest corner of sec. 20, T. 52 N., R. 28 W., Powell Township, Marquette County, Michigan; USGS Howe Lake, Michigan, topographic quadrangle; lat. 46 degrees 52 minutes 56 seconds N. and long. 87 degrees 54 minutes 13 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed forest litter; weak fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

Bw1—2 to 4 inches; reddish brown (5YR 4/3) very channery loamy sand, yellowish red (5YR 6/2) dry; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 40 percent channers and 3 percent flagstones; extremely acid; clear wavy boundary.

Bw2—4 to 15 inches; reddish brown (5YR 4/4) very channery sand; single grain; loose; many very fine to coarse roots; about 45 percent channers and 10 percent flagstones; very strongly acid; abrupt wavy boundary.

2R—15 inches; dusky red (2.5YR 3/2) sandstone bedrock.

Burt Series

The Burt series consists of shallow, poorly drained soils in depressions and drainageways on bedrock-controlled moraines. These soils formed in sandy glaciofluvial deposits overlying sandstone bedrock. Permeability is rapid. Slopes range from 0 to 2 percent.

Typical pedon of Burt mucky sand, in an area of Burt Variant-Burt complex, 0 to 2 percent slopes; 700 feet south and 2,640 feet east of the northwest corner of sec. 27, T. 52 N., R. 33 W., Baraga Township, Baraga County, Michigan; USGS Portage Entry, Michigan, topographic quadrangle:

Oa—0 to 1 inch; well decomposed forest litter; weak medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary.

A—1 to 5 inches; black (10YR 2/1) mucky sand, gray (10YR 5/1) dry; weak medium granular structure; very friable; many fine roots; about 5 percent gravel; moderately acid; abrupt smooth boundary.

Cg—5 to 13 inches; gray (5Y 5/1) sand; single grain; loose; few fine roots; about 5 percent gravel; moderately acid; clear smooth boundary.

C—13 to 19 inches; brown (10YR 5/3) sand; single grain; loose; 5 percent gravel; slightly acid; abrupt clear boundary.

2R—19 inches; brown (10YR 5/3) sandstone bedrock.

Carbondale Series

The Carbondale series consists of very deep, very poorly drained soils on outwash plains, lake plains, ground moraines, and disintegration moraines. These soils formed in woody and herbaceous material more than 51 inches thick. Permeability is moderately slow to moderately rapid. Slopes range from 0 to 2 percent.

Typical pedon of Carbondale muck, in an area of Carbondale, Lupton, and Tawas soils, 2,900 feet south and 800 feet west of the northeast corner of sec. 9, T. 43 N., R. 26 W., Wells Township, Marquette County, Michigan; USGS Northland NE, Michigan, topographic quadrangle; lat. 46 degrees 08 minutes 10 seconds N. and long. 87 degrees 33 minutes 25 seconds W., NAD 27:

Oa1—0 to 6 inches; muck, black (10YR 2/1) broken face and rubbed; about 10 percent fiber, 2 percent rubbed; weak fine granular structure; many very fine to coarse roots; slightly acid; clear wavy boundary.

Oa2—6 to 23 inches; muck, black (N 2.5/) broken face and rubbed; about 10 percent fiber, 2 percent rubbed; weak medium subangular blocky structure; slightly acid; clear smooth boundary.

Oa3—23 to 38 inches; muck, black (N 2.5/) broken face and rubbed; about 35 percent fiber, 10 percent rubbed; weak medium subangular blocky structure; slightly acid; clear smooth boundary.

Oe1—38 to 68 inches; mucky peat, black (10YR 2/1) broken face and rubbed; about 90 percent fiber, 33 percent rubbed; massive; neutral; clear smooth boundary.

Oe2—68 to 80 inches; mucky peat, black (10YR 2/1) broken face and rubbed; about 90 percent fiber, 20 percent rubbed; massive; neutral.

Cathro Series

The Cathro series consists of very deep, very poorly drained soils in depressions and drainageways on ground moraines and bedrock-controlled moraines. These soils formed in woody and herbaceous deposits over loamy glacial deposits. Permeability is moderately slow to moderately rapid in the organic part of the profile and moderate or moderately slow in the loamy part. Slopes are 0 to 1 percent.

Typical pedon of Cathro muck, in an area of Cathro-Ensley mucks; 1,500 feet west and 20 feet south of the northeast corner of sec. 21, T. 22 N., R. 22 W., Limestone Township, Alger County, Michigan; USGS Diffin, Michigan, topographic quadrangle; lat. 46 degrees 12 minutes 08.15 seconds N. and long. 87 degrees 03 minutes 35.45 seconds W., NAD 27:

Oa1—0 to 8 inches; very dark gray (10YR 3/1) muck; about 30 percent fiber, 5 percent rubbed; weak medium subangular blocky structure; very friable; many very fine to coarse roots; moderately acid; clear wavy boundary.

Oa2—8 to 16 inches; very dark brown (10YR 2/2) muck; about 50 percent fiber, 10 percent rubbed; weak medium subangular blocky structure; very friable; moderately acid; clear wavy boundary.

Oa3—16 to 34 inches; black (10YR 2/1) muck; about 15 percent fiber, 2 percent rubbed; 5 percent mineral content; massive; friable; moderately acid; abrupt smooth boundary.

C1—34 to 46 inches; reddish brown (2.5YR 5/3) gravelly fine sandy loam; massive; friable; about 12 percent gravel and 6 percent cobbles; slightly acid; gradual wavy boundary.

C2—46 to 80 inches; reddish brown (5YR 5/4) gravelly fine sandy loam; massive; friable; about 12 percent gravel and 6 percent cobbles; slightly effervescent; slightly alkaline.

Charlevoix Series

The Charlevoix series consists of very deep, somewhat poorly drained soils on ground moraines. These soils formed in a silty or loamy eolian mantle over loamy till. Permeability is moderate. Slopes range from 0 to 3 percent.

Typical pedon of Charlevoix silt loam, in an area of Charlevoix-Ensley complex, 0 to 3 percent slopes; about 1,300 feet east and 300 feet south of the northwest corner of sec. 20, T. 44 N., R. 22 W., Limestone Township, Alger County, Michigan; USGS Diffin, Michigan, topographic quadrangle; lat. 46 degrees 12 minutes 08.52 seconds N. and long. 87 degrees 05 minutes 39.43 seconds W., NAD 27:

Oa—0 to 2 inches; partially decomposed forest litter; moderate fine granular structure; friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

E—2 to 5 inches; dark reddish gray (5YR 4/2) silt loam, light gray (5YR 7/1) dry; weak fine subangular blocky structure; friable; many very fine to coarse roots; common fine vesicular pores; about 2 percent gravel and 1 percent cobbles; strongly acid; abrupt smooth boundary.

Bhs—5 to 7 inches; dark reddish brown (5YR 3/2) silt loam; weak fine subangular blocky structure; friable; many very fine to coarse roots; common fine vesicular pores; about 2 percent gravel and 1 percent cobbles; very strongly acid; abrupt broken boundary.

Bs—7 to 12 inches; dark reddish brown (5YR 3/4) silt loam; common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation on faces of peds; very dark gray (5YR 3/1), firm organic accumulations on horizontal surfaces of peds; weak fine subangular blocky structure; friable; many very fine to coarse roots; common fine vesicular pores; about 2 percent gravel and 1 percent cobbles; strongly acid; clear broken boundary.

2E/B—12 to 16 inches; brown (7.5YR 5/4) loamy fine sand, pink (7.5YR 7/3) dry (E); occupies about 60 percent of the horizon; occurs as tongues extending into or completely surrounding isolated remnants of reddish brown (5YR 4/4) fine sandy loam (Bt); few distinct dark reddish brown (5YR 3/4) clay films on faces of peds and in root channels; weak thick platy structure parting to weak moderate subangular blocky; firm; few very fine and fine roots; common fine vesicular pores; common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; 6 percent gravel and 4 percent cobbles; neutral; clear wavy boundary.

2B/E—16 to 27 inches; reddish brown (5YR 4/4) cobbly fine sandy loam (Bt); few distinct dark reddish brown (5YR 3/4) clay films on faces of peds and in root channels; occupies about 70 percent of the horizon; penetrated by tongues of brown (7.5YR 5/4) cobbly loamy fine sand (E); common fine distinct strong brown (7.5YR 5/6) mottles; weak coarse subangular blocky structure; friable; common fine vesicular pores; few distinct clay films on faces of peds and in root channels; 12 percent gravel and 8 percent cobbles; moderately alkaline; gradual wavy boundary.

2C—27 to 80 inches; reddish brown (5YR 5/4) cobbly fine sandy loam; common fine distinct strong brown (7.5YR 5/6) mottles; massive with weak thick platiness inherent from deposition; friable; 12 percent gravel and 8 percent cobbles; slightly effervescent; moderately alkaline.

Chatham Series

The Chatham series consists of very deep, well drained soils on ground moraines and in glacial drainage channels. These soils formed in gravelly and flaggy, loamy glaciofluvial deposits. Permeability is moderate. Slopes range from 1 to 35 percent.

Typical pedon of Chatham fine sandy loam, 1 to 6 percent slopes, stony; 2,000 feet west and 350 feet north of the southeast corner of sec. 10, T. 46 N., R. 22 W., Onota Township, Alger County, Michigan; USGS Sand River, Michigan, topographic quadrangle; lat. 46 degrees 23 minutes 31 seconds N. and long. 87 degrees 02 minutes 27 seconds W., NAD 27:

Oa—0 to 1 inch; highly decomposed forest litter.

A—1 to 6 inches; black (7.5YR 2.5/1) fine sandy loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; many very fine to coarse roots; about 5 percent gravel, 5 percent cobbles, and 1 percent stones; strongly acid; clear wavy boundary.

Bs1—6 to 20 inches; dark brown (7.5YR 3/4) gravelly fine sandy loam; moderate fine subangular blocky structure; friable; many very fine to medium roots and common coarse roots; common fine prominent very dark grayish brown (10YR 3/2) worm casts; about 16 percent gravel, 5 percent cobbles, and 1 percent stones; strongly acid; gradual wavy boundary.

2Bs2—20 to 39 inches; brown (7.5YR 4/4) very flaggy fine sandy loam; weak coarse subangular blocky structure; friable; common very fine and fine roots and few medium and coarse roots; common fine prominent very dark grayish brown (10YR 3/2) worm casts; common saprolite fragments composed of sandstone and glauconitic limestone; about 17 percent gravel, 10 percent cobbles, and 15 percent flagstones; moderately acid; gradual wavy boundary.

2C—39 to 80 inches; brown (10YR 4/3) extremely flaggy fine sandy loam; massive; friable; about 30 percent flagstones, 25 percent cobbles, and 26 percent gravel; slightly effervescent; moderately alkaline.

Chippeny Series

The Chippeny series consists of moderately deep, very poorly drained soils in depressions and drainageways on ground moraines and in glacial drainage channels. These soils formed in organic deposits over loamy material overlying limestone, dolomite, or dolomitic sandstone bedrock. Permeability is moderately slow to moderately rapid in the organic part of the profile and moderate or moderately slow in the mineral part. Slopes are 0 to 1 percent.

Typical pedon of Chippeny muck; in the southwest corner of sec. 3, T. 41 N., R. 21 W., Masonville Township, Delta County, Michigan; USGS Rapid River, Michigan, topographic quadrangle:

Oa1—0 to 3 inches; muck, black (5YR 2.5/1) broken face and rubbed; about 25 percent fiber, less than 5 percent rubbed; weak fine granular structure; primarily herbaceous fiber; slightly alkaline; clear smooth boundary.

Oa2—3 to 6 inches; muck, black (5YR 2/1) broken face, dark reddish brown (5YR 2.5/2) rubbed; about 50 percent fiber, less than 5 percent rubbed; weak medium granular structure; slightly alkaline; clear smooth boundary.

Oa3—6 to 20 inches; muck, very dark gray (5YR 3/1) broken face and rubbed; about 17 percent fiber, less than 5 percent rubbed; massive; primarily herbaceous fiber; nonsticky; about 40 percent ash content; slightly alkaline; gradual smooth boundary.

Cg—20 to 28 inches; dark grayish brown (2.5Y 4/2) silty clay loam; massive; sticky; slightly alkaline; abrupt smooth boundary.

2R—28 inches; limestone bedrock.

Chocolay Series

The Chocolay series consists of moderately deep, moderately well drained soils on bedrock-controlled moraines. These soils formed in loamy till overlying sandstone bedrock. Permeability is moderate. Slopes range from 1 to 6 percent.

Typical pedon of Chocolay very stony fine sandy loam, 1 to 6 percent slopes, very stony; 100 feet south and 1,200 feet east of the northwest corner of sec. 34, T. 47 N., R. 23 W., Chocolay Township, Marquette County, Michigan; USGS Skandia, Michigan, topographic quadrangle; lat. 46 degrees 25 minutes 51 seconds N. and long. 87 degrees 10 minutes 10 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed forest litter; moderate very fine granular structure; very friable; many very fine to coarse roots; about 15 percent stones; very strongly acid; abrupt smooth boundary.

A—2 to 3 inches; black (10YR 2/1) very stony fine sandy loam, gray (5YR 5/1) dry; moderate fine granular structure; friable; many very fine to coarse roots; about 25 percent cobbles, 18 percent gravel, and 15 percent stones; very strongly acid; abrupt smooth boundary.

E—3 to 8 inches; reddish brown (5YR 4/3) very stony fine sandy loam, pinkish gray (5YR 6/2) dry; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 25 percent cobbles, 18 percent gravel, and 15 percent stones; very strongly acid; abrupt wavy boundary.

Bhs—8 to 14 inches; dark reddish brown (5YR 3/3) very stony fine sandy loam; weak fine subangular blocky structure; friable; many very fine to coarse roots; about 25 percent cobbles, 18 percent gravel, and 15 percent stones; strongly acid; clear irregular boundary.

Bs—14 to 27 inches; reddish brown (5YR 4/4) very gravelly sandy loam; weak fine subangular blocky structure; friable; common very fine to medium roots; few medium distinct strong brown (7.5YR 4/6) masses of iron accumulation; about 30 percent gravel, 15 percent cobbles, and 10 percent stones; strongly acid; abrupt wavy boundary.

2R—27 inches; reddish brown (2.5YR 4/3) sandstone bedrock.

Cookson Series

The Cookson series consists of moderately deep, well drained soils on ground moraines. These soils formed in loamy eolian deposits over loamy till underlain by limestone, dolomite, or dolomitic sandstone bedrock. Permeability is moderate. Slopes range from 1 to 50 percent.

Typical pedon of Cookson silt loam, in an area of Amadon-Cookson silt loams, 1 to 6 percent slopes; 1,056 feet east and 2,112 feet south of the northwest corner of sec. 16, T. 42 N., R. 13 W., Doyle Township, Schoolcraft County, Michigan; USGS Blaney Park, Michigan, topographic quadrangle; lat. 46 degrees 02 minutes 08 seconds N. and long. 85 degrees 56 minutes 40 seconds W., NAD 27:

Oi—0 to 3 inches; slightly decomposed forest litter.

E—3 to 7 inches; brown (7.5YR 4/2) silt loam, gray (7.5YR 6/1) dry; weak medium subangular blocky structure parting to weak coarse granular; friable; common fine and few medium and coarse roots; strongly acid; clear wavy boundary.

Bhs—7 to 11 inches; dark reddish brown (5YR 3/2) silt loam; weak medium subangular blocky structure; friable; many fine and few medium and coarse roots; strongly acid; clear wavy boundary.

Bs—11 to 16 inches; dark brown (7.5YR 3/4) sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; moderately acid; abrupt broken boundary.

2E—16 to 21 inches; brown (7.5YR 5/3) fine sandy loam, light gray (7.5YR 7/1) dry (E); occupies about 90 percent of the horizon surrounding reddish brown (5YR 4/3) loam (Bt); moderate medium subangular blocky structure; firm; few fine roots; many fine vesicular pores; about 3 percent fine and medium gravel; moderately acid; clear irregular boundary.

2Bt—21 to 31 inches; reddish brown (5YR 4/3) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; many fine vesicular pores; few faint dark reddish brown (5YR 3/4) clay films on faces of peds; about 3 percent fine and medium gravel; neutral; clear wavy boundary.

2BC—31 to 36 inches; reddish brown (5YR 5/4) fine sandy loam; moderate medium subangular blocky structure parting to massive; firm; about 5 percent medium and fine gravel; moderately alkaline; strong effervescence; abrupt smooth boundary.

3R—36 inches; hard, fractured limestone.

Croswell Series

The Croswell series consists of very deep, moderately well drained soils on beach ridges and outwash plains. These soils formed in sandy deposits. Permeability is rapid. Slopes range from 0 to 6 percent.

Typical pedon of Croswell sand, 0 to 6 percent slopes; 1,800 feet east and 950 feet north of the southwest corner of sec. 29, T. 44 N., R. 9 W., Garfield Township, Mackinac County, Michigan; USGS Gilchrist, Michigan, topographic quadrangle:

Oe—0 to 2 inches; partially decomposed forest litter.

E—2 to 6 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/2) dry; weak fine subangular blocky structure; very friable; common fine and medium roots; very strongly acid; abrupt wavy boundary.

Bs1—6 to 8 inches; dark brown (7.5YR 4/4) sand; weak fine subangular blocky structure; very friable; many fine to coarse roots; strongly acid; clear irregular boundary.

Bs2—8 to 15 inches; strong brown (7.5YR 5/6) sand; weak medium subangular blocky structure; very friable; common medium and fine roots; strongly acid; clear irregular boundary.

BC—15 to 22 inches; brownish yellow (10YR 6/6) sand; single grain; loose; few fine roots; moderately acid; gradual wavy boundary.

C—22 to 80 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; common fine prominent strong brown (7.5YR 5/6) iron accumulations beginning at a depth of 27 inches; moderately acid.

Cusino Series

The Cusino series consists of very deep, somewhat excessively drained soils on outwash plains, kame terraces, and moraines. These soils formed in sandy and gravelly outwash. Permeability is rapid in the sandy upper part and rapid or very rapid in the sandy and gravelly lower part. Slopes range from 0 to 70 percent.

Typical pedon of Cusino loamy sand, in an area of Kalkaska-Cusino complex, 1 to 6 percent slopes; 2,100 feet north and 600 feet east of the southwest corner of sec. 24, T. 46 N., R. 19 W., Munising Township, Alger County, Michigan; USGS Munising, Michigan, topographic quadrangle; lat. 46 degrees 22 minutes 04 seconds N. and long. 86 degrees 38 minutes 02 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed plant material; moderate medium granular structure; very friable; many very fine to very coarse roots; extremely acid; abrupt smooth boundary.

E—2 to 8 inches; dark gray (5YR 4/1) loamy sand, gray (5YR 6/1) dry; weak fine subangular blocky structure; very friable; many very fine to very coarse roots; about 3 percent gravel; very strongly acid; abrupt wavy boundary.

Bhs—8 to 10 inches; dark reddish brown (5YR 2.5/2) loamy sand; moderate fine subangular blocky structure; very friable; many very fine to very coarse roots; about 3 percent gravel; extremely acid; abrupt broken boundary.

Bs1—10 to 14 inches; reddish brown (5YR 4/4) loamy sand; moderate fine subangular blocky structure; very friable; many very fine to very coarse roots between ortstein tongues; about 3 percent gravel; discontinuous tongues of strongly cemented, dark reddish brown (5YR 3/2) and reddish brown (5YR 4/4) ortstein 6 to 15 inches wide and 3 to 24 inches apart extend to a depth of 38 inches; ortstein occupies 43 percent (17 of 40 inches) of the horizon; very strongly acid; clear irregular boundary.

Bs2—14 to 17 inches; light brown (7.5YR 4/6) sand; weak fine subangular blocky structure; very friable; few very fine and fine roots between ortstein tongues; about 3 percent gravel; discontinuous tongues of strongly cemented, dark reddish brown (5YR 3/4) and reddish brown (5YR 4/4) ortstein 3 to 10 inches wide and 10 to 30 inches apart; ortstein occupies 30 percent (12 of 40 inches) of the horizon; very strongly acid; gradual irregular boundary.

BC—17 to 35 inches; strong brown (7.5YR 5/6) gravelly sand; single grain; loose; about 23 percent gravel; strongly acid; gradual wavy boundary.

C—35 to 80 inches; light yellowish brown (10YR 6/4), stratified sand and gravelly sand; single grain; loose; about 7 percent gravel, 3 percent cobbles, and 1 percent stones; strongly acid.

Davies Series

The Davies series consists of very deep, poorly drained soils in depressions and drainageways on kame terraces and in glacial drainage channels. These soils formed in a loamy mantle overlying gravelly outwash. Permeability is moderately rapid in the upper part and very rapid in the lower part. Slopes range from 0 to 2 percent.

Typical pedon of Davies very cobbly muck; 400 feet south and 500 feet east of the northwest corner of sec. 29, T. 44 N., R. 20 W., Mathias Township, Alger County, Michigan; USGS Lake Stella, Michigan, topographic quadrangle; lat. 46 degrees 11 minutes 12 seconds N. and long. 86 degrees 50 minutes 32 seconds W., NAD 27:

Oa—0 to 4 inches; black (N 2.5/) very cobbly muck; weak fine subangular blocky structure; very friable; many very fine to medium roots; about 15 percent gravel and 25 percent cobbles; strongly acid; abrupt smooth boundary.

Bg—4 to 11 inches; grayish brown (2.5 Y 5/2) very cobbly sandy loam; weak medium subangular blocky structure; friable; common fine prominent strong brown (7.5YR 5/2) concentrations; few very fine and fine roots; about 30 percent gravel and 25 percent cobbles; moderately acid; gradual wavy boundary.

C1—11 to 17 inches; olive gray (5Y 4/2) very cobbly sand; single grain; loose; about 30 percent gravel and 25 percent cobbles; moderately acid; gradual wavy boundary.

C2—17 to 80 inches; dark grayish brown (2.5Y 4/2) very cobbly sand; single grain; loose; about 30 percent gravel and 25 percent cobbles; moderately acid.

Dawson Series

The Dawson series consists of very deep, very poorly drained soils in depressions on ground moraines, disintegration moraines, and outwash plains. These soils formed in herbaceous material 16 to 51 inches thick over sandy deposits. Permeability is moderately slow to moderately rapid in the organic material and rapid in the sandy underlying material. Slopes range from 0 to 2 percent.

Typical pedon of Dawson peat, in an area of Dawson-Loxley-Greenwood peats; 2,640 feet south and 1,320 feet east of the northwest corner of sec. 13, T. 42 N., R. 16 W., Hiawatha Township, Schoolcraft County, Michigan; USGS Hiawatha, Michigan, topographic quadrangle; lat. 46 degrees 02 minutes 02 seconds N. and long. 86 degrees 15 minutes 20 seconds W., NAD 27:

Oi—0 to 10 inches; peat, reddish brown (5YR 4/3) broken face and rubbed; about 95 percent fiber, 90 percent rubbed; massive; friable; fibers are herbaceous; many fine and medium roots; extremely acid; abrupt smooth boundary.

Oa1—10 to 20 inches; muck, very dark gray (5YR 3/1) broken face and rubbed; about 75 percent fiber, 15 percent rubbed; weak thick platy structure; friable; fibers are herbaceous; few fine roots; extremely acid; abrupt smooth boundary.

Oa2—20 to 38 inches; muck, black (5YR 2.5/1) broken face and rubbed; about 10 percent fiber, 1 percent rubbed; massive; friable; fibers are herbaceous; extremely acid; abrupt smooth boundary.

2C—38 to 80 inches; dark brown (7.5YR 3/3) fine sand; single grain; loose; many coarse prominent pale brown (10YR 6/3) masses of iron depletions with sharp boundaries on faces of peds; very strongly acid.

Deer Park Series

The Deer Park series consists of very deep, excessively drained soils on beach ridges and dunes. These soils formed in sandy beach deposits. Permeability is rapid. Slopes range from 0 to 60 percent.

Typical pedon of Deer Park sand, 0 to 10 percent slopes; 700 feet east and 900 feet north of the southwest corner of sec. 36, T. 50 N., R. 13 W., Burt Township, Alger County, Michigan; USGS Grand Marais, Michigan, topographic quadrangle; lat. 46 degrees 41 minutes 05.16 seconds N. and long. 85 degrees 52 minutes 09.1 seconds W., NAD 27:

Oa—0 to 2 inches; black (7.5YR 2.5/1), partially decomposed organic material; many very fine to coarse roots; abrupt smooth boundary.

A—2 to 3 inches; very dark gray (7.5YR 3/1) sand, gray (7.5YR 5/1) dry; weak fine granular structure; very friable; many very fine to coarse roots; extremely acid; abrupt wavy boundary.

E—3 to 10 inches; pinkish gray (7.5YR 6/2) sand, light gray (7.5YR 7/1) dry; weak very fine subangular blocky structure; very friable; many very fine to coarse roots; very strongly acid; abrupt wavy boundary.

Bs1—10 to 16 inches; dark yellowish brown (10YR 4/6) sand; weak very fine subangular blocky structure; very friable; common very fine to medium roots; very strongly acid; gradual wavy boundary.

Bs2—16 to 21 inches; strong brown (7.5YR 5/6) sand; weak fine subangular blocky structure; very friable; common very fine to medium roots; very strongly acid; gradual wavy boundary.

BC—21 to 33 inches; light brown (7.5YR 6/4) sand; weak fine subangular blocky structure; very friable; few very fine and fine roots; very strongly acid; gradual wavy boundary.

C—33 to 80 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few very fine and fine roots; strongly acid.

Deerton Series

The Deerton series consists of moderately deep, excessively drained soils on bedrock-controlled moraines and on bedrock benches in glacial drainage channels. These soils formed in sandy glaciofluvial deposits overlying sandstone bedrock. Permeability is rapid. Slopes range from 1 to 70 percent.

Typical pedon of Deerton sand, in an area of Deerton-Tokiahok-Trout Bay complex, 8 to 35 percent slopes, dissected; 700 feet north and 200 feet west of the southeast corner of sec. 27, T. 47 N., R. 20 W., Au Train Township, Alger County, Michigan; USGS Au Train, Michigan, topographic quadrangle; lat. 46 degrees 26 minutes 10 seconds N. and long. 86 degrees 46 minutes 48 seconds W., NAD 27:

Oa—0 to 1 inch; well decomposed, black (5YR 2.5/1) and very dark gray (N 3/) leaf litter; extremely acid; abrupt smooth boundary.

E—1 to 9 inches; pinkish gray (5YR 6/2) sand; weak fine granular structure; very friable; extremely acid; abrupt irregular boundary.

Bhs—9 to 10 inches; dark reddish brown (5YR 3/2) loamy sand; weak fine subangular blocky structure; very friable; very strongly acid; abrupt irregular boundary.

Bs—10 to 25 inches; reddish brown (5YR 4/4) sand; single grain; loose; 10 percent weakly cemented chunks of ortstein; very strongly acid; gradual smooth boundary.

2Cr—25 to 39 inches; dark yellowish brown (10YR 4/4) and very pale brown (10YR 8/3), highly weathered and fractured sandstone; moderately acid; gradual broken boundary.

2R—39 inches; consolidated sandstone bedrock.

Deford Series

The Deford series consists of very deep, poorly drained soils in depressions and drainageways on outwash plains and moraines. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 0 to 2 percent.

Typical pedon of Deford fine sand; 600 feet south and 200 feet west of the northeast corner of sec. 8, T. 41 N., R. 3 E., Detour Township, Chippewa County, Michigan; USGS Albany Island, Michigan, topographic quadrangle:

A—0 to 4 inches; very dark gray (10YR 3/1) and dark grayish brown (10YR 4/2) fine sand, gray (10YR 5/1) and light brownish gray (10YR 6/2) dry; weak fine granular structure parting to single grain; very friable; many very fine and fine and few medium roots; neutral; abrupt wavy boundary.

C1—4 to 18 inches; light yellowish brown (10YR 6/4) (uncoated sand grains) fine sand; single grain; loose; few medium prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in root channels; few fine roots; slightly alkaline; gradual wavy boundary.

C2—18 to 32 inches; pale brown (10YR 6/3) (uncoated sand grains) fine sand; single grain; loose; few medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in root channels; slightly alkaline; gradual wavy boundary.

Cg—32 to 80 inches; grayish brown (10YR 5/2) (uncoated sand grains) fine sand; single grain; loose; slightly alkaline.

Dillingham Series

The Dillingham series consists of very deep, well drained, sandy soils on disintegration moraines. These soils have a fragipan. Permeability is moderately rapid in the upper part of the subsoil, slow in the fragipan, and moderately rapid in the substratum. Slopes range from 1 to 70 percent.

Typical pedon of Dillingham loamy sand, in an area of Dillingham-Kalkaska complex, 15 to 35 percent slopes; 1,750 feet east and 2,100 feet north of the southwest corner of sec. 29, T. 48 N., R. 12 W., McMillan Township, Luce County, Michigan; USGS Grand Marais Southeast, Michigan, topographic quadrangle; lat. 46 degrees 31 minutes 30 seconds N. and long. 85 degrees 50 minutes 20 seconds W., NAD 27:

Oe—0 to 1 inch; partially decomposed leaf litter; weak medium granular structure; friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.

E—1 to 8 inches; brown (7.5YR 5/3) loamy sand, pinkish gray (7.5YR 7/2) dry; weak medium subangular blocky structure; friable; common fine to coarse roots; 1 percent cobbles; extremely acid; abrupt irregular boundary.

Bhs—8 to 11 inches; dark brown (7.5YR 3/3) loamy sand; weak medium subangular blocky structure; friable; many fine to coarse roots; 1 percent cobbles; extremely acid; abrupt irregular boundary.

Bs—11 to 21 inches; dark brown (7.5YR 3/4) loamy fine sand; weak medium subangular blocky structure; friable; many fine to coarse roots; 1 percent cobbles; extremely acid; abrupt irregular boundary.

(E/B)x—21 to 31 inches; light reddish brown (5YR 6/3) fine sand, pinkish gray (7.5YR 6/2) dry (E); occupies about 60 percent of the horizon; surrounding peds of reddish brown (5YR 5/4) loamy fine sand (Bt); weak thick platy structure; very firm; common fine and medium roots in cracks; few thin clay films on faces of peds; many fine and medium vesicular and tubular pores; 1 percent gravel and 1 percent cobbles; extremely acid; clear wavy boundary.

C—31 to 80 inches; reddish brown (5YR 5/4) and pinkish gray (5YR 6/2) sand with bands of reddish brown (2.5YR 5/4) loamy fine sand; massive with weak thick platy fragments; firm; 1 percent gravel and 1 percent cobbles; extremely acid.

Eben Series

The Eben series consists of very deep, well drained soils in glacial drainage channels. These soils formed in a very cobbly loamy mantle overlying extremely gravelly coarse sand (fig. 9). Permeability is moderately rapid in the loamy part of the profile and very rapid in the sandy part. Slopes range from 1 to 35 percent.

Typical pedon of Eben very cobbly sandy loam, 1 to 6 percent slopes, stony; about 2,000 feet south and 2,100 feet west of the northeast corner of sec. 15, T. 46 N., R. 21 W., Rock River Township, Alger County, Michigan; USGS Rock River, Michigan, topographic quadrangle; lat. 46 degrees 23 minutes 09 seconds N. and long. 86 degrees 54 minutes 58 seconds W., NAD 27:

A—0 to 6 inches; very dark brown (10YR 2/2) very cobbly sandy loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine to coarse roots; about 23 percent gravel, 15 percent cobbles, 10 percent stones, and 1 percent boulders; slightly alkaline; clear wavy boundary.

Bw1—6 to 22 inches; dark brown (10YR 3/3) very cobbly sandy loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; friable; many very fine to coarse roots; common dark grayish brown (10YR 4/2) worm casts;

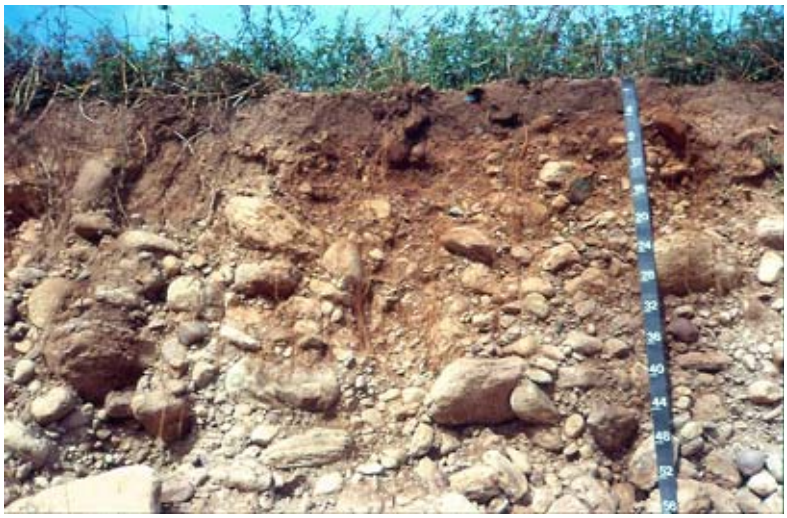

Figure 9.—Profile of Eben very cobbly sandy loam. Depth is marked in inches.

about 25 percent gravel, 15 percent cobbles, 10 percent stones, and 1 percent boulders; slightly alkaline; gradual irregular boundary.

Bw2—22 to 25 inches; dark yellowish brown (10YR 3/4) very cobbly loamy sand; weak fine subangular blocky structure; friable; many very fine to coarse roots; about 23 percent gravel, 15 percent cobbles, 10 percent stones, and 1 percent boulders; neutral; clear irregular boundary.

2BC—25 to 35 inches; dark yellowish brown (10YR 4/4) extremely gravelly loamy coarse sand; single grain; loose; few very fine to medium roots; about 54 percent gravel, 15 percent cobbles, and 10 percent stones; slightly effervescent; moderately alkaline; gradual wavy boundary.

2C—35 to 80 inches; yellowish brown (10YR 5/4) extremely gravelly coarse sand; single grain; loose; few very fine to medium roots; about 59 percent gravel, 15 percent cobbles, and 10 percent stones; slightly effervescent; moderately alkaline.

Ensign Series

The Ensign series consists of shallow, somewhat poorly drained soils on ground moraines and in glacial drainage channels. These soils formed in loamy till underlain by limestone bedrock. Permeability is moderate. Slopes range from 0 to 6 percent.

Typical pedon of Ensign fine sandy loam, 0 to 3 percent slopes, rocky; 1,750 feet east and 2,200 feet north of the southwest corner of sec. 28, T. 43 N., R. 5 W., Moran Township, Mackinac County, Michigan; USGS Kenneth, Michigan, topographic quadrangle:

Oe—0 to 1 inch; partially decomposed forest litter.

A—1 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; many fine to coarse roots; slightly alkaline; clear smooth boundary.

B/A—5 to 8 inches; fine sandy loam, dark yellowish brown (10YR 4/4) (B) and very dark grayish brown (10YR 3/2) (A); light brownish gray (10YR 6/2) dry; moderate medium subangular blocky structure; friable; many fine to coarse roots; few fine

distinct yellowish brown (10YR 5/6) iron accumulations; about 2 percent gravel; slightly alkaline; clear smooth boundary.

Bw—8 to 15 inches; dark brown (10YR 4/3) sandy loam; moderate medium subangular blocky structure; friable; common fine to coarse roots; few medium distinct grayish brown (10YR 5/2) and few fine prominent strong brown (7.5YR 5/6) iron accumulations; about 2 percent gravel; slightly effervescent; slightly alkaline; abrupt smooth boundary.

2R—15 inches; fractured limestone bedrock.

Ensley Series

The Ensley series consists of very deep, poorly drained soils in depressions and drainageways on ground moraines. These soils formed in loamy till. Permeability is moderate. Slopes range from 0 to 2 percent.

Typical pedon of Ensley muck; 120 feet west and 200 feet south of the northeast corner of sec. 9, T. 43 N., R. 26 W., Wells Township, Marquette County, Michigan; USGS Northland NE, Michigan, topographic quadrangle; lat. 46 degrees 08 minutes 39 seconds N. and long. 87 degrees 33 minutes 16 seconds W., NAD 27:

Oa—0 to 5 inches; black (10YR 2/1) muck; moderate fine granular structure; very friable; many very fine to coarse roots; neutral; clear wavy boundary.

A—5 to 7 inches; black (10YR 2/1) mucky loam, very dark gray (10YR 3/1) dry; moderate fine granular structure; friable; many very fine to coarse roots; about 3 percent gravel; neutral; clear smooth boundary.

Bw—7 to 19 inches; brown (7.5YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common very fine to medium roots; common fine prominent light brownish gray (10YR 6/2) iron depletions; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; about 8 percent gravel; slightly effervescent; slightly alkaline; clear wavy boundary.

C—19 to 80 inches; brown (7.5YR 5/4) gravelly fine sandy loam; massive with weakly expressed thick platiness inherent from deposition; friable; few very fine and fine roots; about 20 percent gravel and 5 percent cobbles; slightly effervescent; slightly alkaline.

Escanaba Series

The Escanaba series consists of very deep, well drained soils on drumlins and ground moraines. These soils formed in a sandy mantle over loamy till. Permeability is moderately rapid in the sandy part of the profile and moderate in the loamy lower part. Slopes range from 1 to 35 percent.

Typical pedon of Escanaba loamy fine sand, 6 to 18 percent slopes; 1,400 feet north and 2,300 feet east of the southwest corner of sec. 31, T. 45 N., R. 27 W., Tilden Township, Marquette County, Michigan; USGS Green Hills, Michigan, topographic quadrangle; lat. 46 degrees 15 minutes 03 seconds N. and long. 87 degrees 43 minutes 59 seconds W., NAD 27:

Oe—0 to 1 inch; partially decomposed forest litter.

A—1 to 3 inches; black (5YR 2.5/1) loamy fine sand, dark gray (5YR 4/1) dry; weak fine granular structure; very friable; many very fine to coarse roots; about 3 percent gravel; moderately acid; abrupt wavy boundary.

E—3 to 6 inches; reddish gray (5YR 5/2) loamy fine sand, pinkish gray (5YR 6/2) dry; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 3 percent gravel; moderately acid; abrupt wavy boundary.

Bs1—6 to 12 inches; dark reddish brown (5YR 3/4) loamy fine sand; weak fine subangular blocky structure; very friable; many very fine to medium roots; about 3 percent gravel; moderately acid; clear wavy boundary.

Bs2—12 to 26 inches; brown (7.5YR 4/4) loamy fine sand; weak fine subangular blocky structure; very friable; few fine and medium roots; moderately acid; clear wavy boundary.

E/B—26 to 35 inches; reddish brown (5YR 5/3) loamy fine sand, pinkish gray (5YR 6/2) dry (E); occupies about 60 percent of the horizon; occurs as tongues extending into or completely surrounding isolated remnants of dark reddish brown (5YR 3/4) fine sandy loam (Bt); few distinct discontinuous dark reddish brown (5YR 3/3) clay films on faces of peds; weak medium subangular blocky structure; friable; few fine and medium roots; common very fine vesicular pores; about 3 percent gravel and 2 percent cobbles; neutral; clear irregular boundary.

Bt—35 to 42 inches; dark reddish brown (5YR 3/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; few distinct discontinuous dark reddish brown (5YR 3/3) clay films on faces of peds; common very fine vesicular pores; about 3 percent gravel and 2 percent cobbles; neutral; gradual wavy boundary.

C—42 to 80 inches; reddish brown (5YR 5/4) gravelly fine sandy loam; massive with weakly expressed thin platiness inherent from deposition; friable; few fine and medium roots; about 14 percent gravel and 6 percent cobbles; slightly effervescent; slightly alkaline.

Evart Series

The Evart series consists of very deep, poorly drained soils on flood plains. These soils formed in silty and sandy alluvium. Permeability is rapid. Slopes range from 0 to 2 percent.

Typical pedon of Evart silt loam, in an area of Evart-Pelkie-Sturgeon complex, 0 to 4 percent slopes; 1,750 feet east and 1,550 feet south of the northwest corner of sec. 28, T. 44 N., R. 26 W., Forsyth Township, Marquette County, Michigan; USGS Northland NE, Michigan, topographic quadrangle; lat. 46 degrees 11 minutes 02 seconds N. and long. 87 degrees 34 minutes 33 seconds W., NAD 27:

A1—0 to 10 inches; very dark brown (10YR 2/2) silt loam, brown (10YR 4/3) dry; weak fine granular structure; friable; many very fine to coarse roots; common fine prominent red (2.5YR 5/8) masses of iron accumulation; neutral; clear wavy boundary.

A2—10 to 18 inches; black (10YR 2/1) loamy fine sand, very dark grayish brown (10YR 3/2) dry; weak medium subangular blocky structure; friable; few very fine to medium roots; few fine prominent red (2.5YR 5/8) masses of iron accumulation; slightly acid; clear wavy boundary.

2Cg1—18 to 40 inches; grayish brown (10YR 5/2) sand; single grain; loose; few thin bands of very dark brown (10YR 2/2), well decomposed organic material; neutral; clear wavy boundary.

2Cg2—40 to 80 inches; grayish brown (10YR 5/2) sand; single grain; loose; few thin bands of very dark brown (10YR 2/2), well decomposed organic material; about 6 percent gravel; slightly alkaline.

Fence Series

The Fence series consists of very deep, moderately well drained soils on lake plains. These soils formed in stratified silty and loamy glaciolacustrine deposits.

Permeability is moderate in the solum and moderately slow in the substratum. Slopes range from 1 to 12 percent.

Typical pedon of Fence very fine sandy loam, 1 to 12 percent slopes, dissected; 1,150 feet west and 500 feet south of the northeast corner of sec. 26, T. 46 N., R. 24 W., West Branch Township, Marquette County, Michigan; USGS Little Lake, Michigan, topographic quadrangle; lat. 46 degrees 21 minutes 37 seconds N. and long. 87 degrees 16 minutes 01 second W., NAD 27:

A—0 to 3 inches; very dark gray (5YR 3/1) very fine sandy loam, gray (5YR 5/1) dry; weak medium subangular blocky structure; friable; many very fine to coarse roots; strongly acid; abrupt smooth boundary.

E—3 to 7 inches; reddish gray (5YR 5/2) very fine sandy loam, pinkish gray (5YR 6/2) dry; weak fine subangular blocky structure; very friable; common very fine to coarse roots; moderately acid; abrupt wavy boundary.

Bhs—7 to 11 inches; dark reddish brown (5YR 3/2) very fine sandy loam; moderate medium subangular blocky structure; friable; many very fine to medium roots; about 1 percent gravel; moderately acid; clear wavy boundary.

Bs—11 to 16 inches; reddish brown (5YR 4/4) very fine sandy loam; moderate medium subangular blocky structure; friable; common very fine to medium roots; about 1 percent gravel; moderately acid; clear wavy boundary.

Bw—16 to 19 inches; yellowish brown (10YR 5/4) loamy very fine sand; weak thick platy structure parting to weak fine subangular blocky; very friable; few very fine to medium roots; about 1 percent gravel; moderately acid; clear wavy boundary.

B/E—19 to 42 inches; reddish brown (2.5YR 4/4) and red (2.5YR 4/6) silt loam (Bt); common distinct reddish brown (2.5YR 4/4) clay films on faces of peds; occupies about 60 percent of the horizon; penetrated by tongues of reddish brown (5YR 5/3) very fine sandy loam, pinkish gray (5YR 7/2) dry (E); moderate very thick platy structure parting to moderate medium subangular blocky; friable; few very fine to medium roots; common fine prominent strong brown (7.5YR 5/6 and 4/6) masses of iron accumulation; about 1 percent gravel; moderately acid; clear irregular boundary.

C1—42 to 57 inches; stratified reddish brown (2.5YR 4/4) silt loam, reddish brown (5YR 5/4) very fine sandy loam, and red (2.5YR 4/6) silty clay loam; massive with strong thick platiness inherent from deposition; friable; few very fine to medium roots; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; clear wavy boundary.

C2—57 to 80 inches; stratified reddish brown (5YR 5/4) silt loam and brown (7.5YR 5/3) very fine sand; massive with weak very thick platiness inherent from deposition; friable; few fine distinct strong brown (7.5YR 5/6) and brown (7.5YR 5/4) masses of iron accumulation; moderately acid.

Finch Series

The Finch series consists of very deep, somewhat poorly drained soils on outwash plains. These soils formed in sandy deposits. They contain ortstein. Permeability is moderate or moderately rapid in the ortstein layer and rapid in the rest of the profile. Slopes range from 0 to 3 percent.

Typical pedon of Finch sand, in an area Markey-Spot-Finch complex, 0 to 3 percent slopes; 1,500 feet east of the center of sec. 8, T. 44 N., R. 7 W., Hendricks Township, Mackinac County, Michigan; USGS Rexton, Michigan, topographic quadrangle:

Oe—0 to 1 inch; partially decomposed forest litter.
E—1 to 11 inches; pinkish gray (10YR 6/2) sand, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; very friable; few fine to coarse roots; strongly acid; clear irregular boundary.
Bsm1—11 to 18 inches; dark brown (7.5YR 3/4) and dark reddish brown (7.5YR 3/2) sand; massive; very hard; ortstein occupies 100 percent of the horizon and is strongly cemented; ortstein occurs as a continuous layer and as tongues that extend to a depth of 21 inches; many medium distinct strong brown (7.5YR 5/6) iron accumulations; strongly acid; clear irregular boundary.
Bsm2—18 to 42 inches; sand with a splotchy color pattern of dark brown (7.5YR 4/4 and 3/4) and brown (7.5YR 5/4); massive; very hard; ortstein occupies 90 percent of the horizon and is strongly cemented; ortstein occurs as a nearly continuous layer; common medium distinct strong brown (7.5YR 5/6) iron accumulations; strongly acid; gradual wavy boundary.
C—42 to 80 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; moderately acid.

Frohling Series

The Frohling series consists of very deep, well drained soils on bedrock-controlled moraines. These soils formed in loamy till and are shallow or moderately deep to a fragipan. Permeability is moderate in the upper part of the profile and very slow in the fragipan. Slopes range from 4 to 70 percent.

Typical pedon of Frohling fine sandy loam, in an area of Frohling-Tokiahok complex, 8 to 35 percent slopes, dissected, very stony; 600 feet north and 2,150 feet west of the southeast corner of sec. 12, T. 45 N., R. 24 W., Marquette County, Michigan; USGS Carlshend, Michigan, topographic quadrangle; lat. 46 degrees 18 minutes 28 seconds N. and long. 87 degrees 14 minutes 58 seconds W., NAD 27:

Oe—0 to 1 inch; moderately decomposed forest litter.
A—1 to 2 inches; very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; many very fine to coarse roots; about 5 percent cobbles and 3 percent gravel; strongly acid; abrupt smooth boundary.
E—2 to 7 inches; reddish gray (5YR 5/2) fine sandy loam, light gray (5YR 7/1) dry; weak thin platy structure parting to weak very fine subangular blocky; friable; many very fine to coarse roots; about 5 percent cobbles and 3 percent gravel; strongly acid; abrupt wavy boundary.
Bhs—7 to 9 inches; dark reddish brown (5YR 3/3) fine sandy loam; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 5 percent cobbles and 3 percent gravel; strongly acid; abrupt broken boundary.
Bs—9 to 16 inches; reddish brown (5YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 5 percent cobbles and 3 percent gravel; strongly acid; clear wavy boundary.
(E/B)x—16 to 34 inches; reddish brown (5YR 5/3) loamy fine sand, light gray (5YR 7/1) dry (E); occupies about 70 percent of the horizon; surrounding peds of reddish brown (5YR 4/4) fine sandy loam (Bt); common distinct red (2.5YR 4/6) clay films on faces of peds and in root channels; weak thin platy structure parting to weak very fine subangular blocky; very firm; few very fine to medium roots in cracks 12 to 24 inches apart; common very fine vesicular pores; about 5 percent cobbles and 3 percent gravel; moderately acid; gradual irregular boundary.
(B/E)x—34 to 80 inches; reddish brown (2.5YR 4/4) fine sandy loam (Bt); common distinct red (2.5YR 4/6) clay films on faces of peds and in root channels; occupies

about 60 percent of the horizon; surrounding peds of reddish brown (2.5YR 5/3) loamy fine sand, light gray (5YR 7/1) dry (E); weak medium platy structure parting to weak fine subangular blocky; very firm; few very fine to medium roots in cracks 12 to 24 inches apart; common very fine vesicular pores; about 5 percent cobbles and 3 percent gravel; strongly acid.

Furlong Series

The Furlong series consists of moderately deep, somewhat excessively drained soils on kame terraces overlying bedrock benches. These soils formed in sandy glaciofluvial deposits overlying dolomitic sandstone bedrock (fig. 10). Permeability is rapid. Slopes range from 1 to 15 percent.

Typical pedon of Furlong sand, 0 to 6 percent slopes, rocky; 165 feet east and 2,805 feet south of the northwest corner of sec. 34, T. 43 N., R. 4 W., Brevort Township, Mackinac County, Michigan; USGS Ozark SE, Michigan, topographic quadrangle:

Oe—0 to 1 inch; moderately decomposed forest litter.

A—1 to 2 inches; black (10YR 2/1) sand, gray (10YR 5/1) dry; single grain; loose; many very fine and fine roots; very strongly acid; abrupt wavy boundary.

E—2 to 5 inches; pinkish gray (5YR 6/2) sand, pinkish gray (7.5YR 6/2) dry; single grain; loose; many fine to coarse roots; about 5 percent gravel; very strongly acid; abrupt wavy boundary.

Bhs—5 to 7 inches; dark reddish brown (5YR 3/3) sand; single grain; loose; many fine to coarse roots between columns of ortstein; columns of weakly cemented ortstein extend into the Bs1 horizon; ortstein occupies 15 percent of the horizon; about 5 percent gravel; very strongly acid; abrupt wavy boundary.

Bs1—7 to 13 inches; dark brown (7.5YR 3/4) sand; single grain; loose; common fine and medium roots between columns of ortstein; columns of weakly cemented ortstein extend into the Bs2 horizon; ortstein occupies 15 percent of the horizon; about 5 percent gravel; very strongly acid; abrupt wavy boundary.

Bs2—13 to 19 inches; reddish brown (5YR 4/3) sand; single grain; loose; few fine roots between columns of ortstein; columns of strongly cemented ortstein extend into this horizon from the Bs1 horizon; ortstein occupies 5 percent of the horizon; moderately acid; abrupt wavy boundary.

C—19 to 22 inches; brown (7.5YR 5/4) sand; single grain; loose; very few fine roots; about 5 percent gravel; slightly alkaline; abrupt smooth boundary.

2R—22 inches; fractured, hard limestone bedrock.

Garlic Series

The Garlic series consists of very deep, well drained, sandy soils on pitted outwash plains and disintegration moraines. Permeability is rapid. Slopes range from 0 to 60 percent.

Typical pedon of Garlic sand, 0 to 6 percent slopes, on a slope of 1 percent; 2,600 feet south of the northeast corner of sec. 13, T. 49 N., R. 12 W., Burt Township, Alger County, Michigan; USGS Grand Marais Northeast, Michigan, topographic quadrangle; lat. 46 degrees 38 minutes 34 seconds N. and long. 85 degrees 51 minutes 52 seconds W., NAD 27:

Oe—0 to 2 inches; partially decomposed forest litter; moderate medium granular structure; friable; extremely acid; clear wavy boundary.

Figure 10.—Profile of Furlong sand. Limestone bedrock is at a depth of about 32 inches.

E—2 to 9 inches; brown (7.5YR 5/2) sand, pinkish gray (7.5YR 6/2) dry; weak fine subangular blocky structure; friable; many fine to coarse roots; extremely acid; clear wavy boundary.

Bhs—9 to 11 inches; dark reddish brown (5YR 3/2) sand; weak medium subangular blocky structure; friable; many fine to coarse roots; extremely acid; clear irregular boundary.

Bs—11 to 20 inches; yellowish red (5YR 4/6) sand; weak medium subangular blocky structure; friable; dark reddish brown (5YR 3/2 and 3/4) and yellowish red (5YR 4/6) ortstein makes up 62 percent of the horizon and occurs as columns that extend into the BC horizon; few fine to coarse roots between ortstein columns; very strongly acid; clear irregular boundary.

BC—20 to 29 inches; yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) sand; weak fine subangular blocky structure; friable; few fine roots; strongly acid; gradual irregular boundary.

C1—29 to 47 inches; light yellowish brown (10YR 6/4) fine sand; few thin brown (10YR 5/3) color bands; single grain; loose; very strongly acid; clear wavy boundary.

C2—47 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; 1 percent gravel; very strongly acid.

Gay Series

The Gay series consists of very deep, poorly drained soils in depressions and drainageways on bedrock-controlled moraines. These soils formed in loamy till. Permeability is moderate. Slopes range from 0 to 2 percent.

Typical pedon of Gay muck; 280 feet west and 1,200 feet north of the southeast corner of sec. 20, T. 51 N., R. 32 W., L'Anse Township, Baraga County, Michigan; USGS L'Anse, Michigan, topographic quadrangle:

Oa—0 to 4 inches; very dark gray (10YR 3/1) muck; moderate medium granular structure; friable; many roots; strongly acid; abrupt smooth boundary.

A—4 to 7 inches; dark gray (10YR 4/1) fine sandy loam, gray (10YR 6/1) dry; weak fine subangular blocky structure; friable; many roots; strongly acid; clear smooth boundary.

Eg—7 to 11 inches; light brownish gray (10YR 6/2) sandy loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common roots; about 2 percent gravel; moderately acid; clear wavy boundary.

Bw—11 to 16 inches; brown (7.5YR 5/4) sandy loam; weak medium platy structure parting to weak fine subangular blocky; friable; common roots; many medium prominent grayish brown (10YR 5/2) iron depletions and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; about 4 percent gravel; moderately acid; clear wavy boundary.

BC—16 to 30 inches; reddish brown (2.5YR 4/4) sandy loam; massive; friable; few roots; many medium prominent strong brown (7.5YR 5/6) and common fine distinct reddish brown (5YR 5/3) masses of iron accumulation; about 4 percent gravel; slightly acid; clear wavy boundary.

C—30 to 80 inches; reddish brown (2.5YR 4/4) sandy loam; massive; friable; about 5 percent gravel; slightly acid.

Gongeau Series

The Gongeau series consists of shallow, poorly drained soils in depressions and drainageways and on seepy side slopes of bedrock benches. These soils formed in sandy and loamy glaciofluvial deposits. Permeability is rapid above the bedrock, moderately slow in the Cr horizon, and extremely slow in the unweathered bedrock. Slopes range from 0 to 12 percent.

Typical pedon of Gongeau muck, in an area of Jeske-Gongeau-Deerton complex, bedrock terrace, 1 to 20 percent slopes; 600 feet west and 650 feet north of the southeast corner of sec. 30, T. 48 N., R. 17 W., Munising Township, Alger County, Michigan; USGS Grand Portal Point, Michigan, topographic quadrangle; lat. 46 degrees 31 minutes 22 seconds N. and long. 86 degrees 28 minutes 19 seconds W., NAD 27:

Oa—0 to 5 inches; black (N 2.5/) muck; weak very fine granular structure; very friable; many very fine to coarse roots; extremely acid; clear smooth boundary.

A—5 to 7 inches; very dark brown (10YR 2/2) mucky silt loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

2C—7 to 18 inches; light gray (2.5Y 7/1) sand; single grain; loose; few very fine to medium roots; very strongly acid; clear smooth boundary.

2Cr—18 to 29 inches; light gray (2.5Y 7/1) and yellow (10YR 7/8), weathered sandstone; massive; firm or very firm; very strongly acid; abrupt wavy boundary.
2R—29 inches; light gray (10YR 7/2) and strong brown (7.5YR 5/6) sandstone bedrock.

Grand Sable Series

The Grand Sable series consists of very deep, well drained soils on kame terraces. These soils formed in sandy and loamy eolian deposits overlying sandy outwash. Permeability is moderately rapid in the upper part of the profile and rapid in the lower part. Slopes range from 1 to 35 percent.

Typical pedon of Grand Sable fine sand, 1 to 6 percent slopes; 1,400 feet south and 1,000 feet east of the northwest corner of sec. 15, T. 49 N., R. 21 W., Burt Township, Alger County, Michigan; USGS Grand Sable Lake, Michigan, topographic quadrangle; lat. 46 degrees 38 minutes 44 seconds N. and long. 86 degrees 02 minutes 56 seconds W., NAD 27:

Oe—0 to 1 inch; very dark brown (7.5YR 2.5/2), partially decomposed forest litter; weak fine granular structure; very friable; very strongly acid; abrupt smooth boundary.
A—1 to 4 inches; very dark gray (7.5YR 3/1) fine sand, gray (7.5YR 5/1) dry; weak fine granular structure; very friable; many very fine and fine and common medium and coarse roots; strongly acid; abrupt smooth boundary.
C1—4 to 13 inches; brown (7.5YR 4/2) loamy fine sand; weak very fine subangular blocky structure; very friable; common very fine to coarse roots; moderately acid; abrupt broken boundary.
C2—13 to 19 inches; brown (7.5YR 4/2) loamy fine sand; weak fine subangular blocky structure; very friable; common very fine to coarse roots; discontinuous thin very dark gray (7.5YR 3/1) buried A horizon; moderately acid; clear smooth boundary.
C3—19 to 30 inches; brown (7.5YR 4/3) very fine sandy loam; weak fine subangular blocky structure; very friable; common very fine to coarse roots; moderately acid; clear smooth boundary.
2Eb—30 to 32 inches; brown (7.5YR 4/3) loamy sand; weak thin platy structure; very friable; common very fine to coarse roots; about 1 percent gravel; moderately acid; abrupt wavy boundary.
2Bsb1—32 to 37 inches; dark brown (7.5YR 3/4) sand; weak fine subangular blocky structure; friable; few very fine and fine roots; about 3 percent gravel; slightly acid; clear wavy boundary.
2Bsb2—37 to 43 inches; brown (7.5YR 4/4) sand; weak very fine subangular blocky structure; very friable; few very fine and fine roots; discontinuous vertical tongues of dark reddish brown (5YR 3/2) moderately cemented ortstein occupy about 25 percent (10 of 40 inches) of the horizon and extend into the 2BC horizon to a depth of 55 inches; tongues are 1 to 6 inches wide and 6 to 25 inches apart; about 3 percent gravel; slightly acid; gradual wavy boundary.
2BCb—43 to 55 inches; brown (7.5YR 5/4) sand; single grain; loose; about 4 percent gravel; slightly acid; gradual wavy boundary.
2Cb—55 to 99 inches; light brown (7.5YR 6/4) sand; single grain; loose; about 2 percent gravel; slightly acid.

Greenwood Series

The Greenwood series consists of very deep, very poorly drained soils in depressions on outwash plains and moraines. These soils formed in herbaceous

material more than 51 inches thick. Permeability is moderate or moderately rapid. Slopes are 0 to 1 percent.

Typical pedon of Greenwood mucky peat; 800 feet north and 1,700 feet west of the southeast corner of sec. 13, T. 45 N., R. 19 W., Munising Township, Alger County, Michigan; USGS Juniper, Michigan, topographic quadrangle; lat. 46 degrees 17 minutes 26.25 seconds N. and long. 86 degrees 44 minutes 73 seconds W., NAD 27:

Oe1—0 to 18 inches; mucky peat, black (10YR 2/1) broken face and rubbed; about 60 percent fiber, 50 percent rubbed; massive; nonsticky; common very fine to medium roots in the upper 4 inches; very strongly acid; clear smooth boundary.

Oe2—18 to 65 inches; mucky peat, black (10YR 2/1) broken face and rubbed; about 70 percent fiber, 60 percent rubbed; massive; nonsticky; extremely acid; gradual smooth boundary.

Oa—65 to 80 inches; muck, black (7.5YR 2.5/1) broken face and very dark brown (7.5YR 2.5/2) rubbed; 30 percent fiber, 5 percent rubbed; massive; nonsticky; very strongly acid.

Greylock Series

The Greylock series consists of very deep, well drained soils on ground moraines and drumlins. These soils formed in loamy till. Permeability is moderate. Slopes range from 1 to 35 percent.

Typical pedon of Greylock fine sandy loam, 1 to 6 percent slopes; 100 feet west and 700 feet north of the southeast corner of sec. 10, T. 43 N., R. 4 W., Brevort Township, Mackinac County, Michigan; USGS Ozark NE, Michigan, topographic quadrangle:

Oe—0 to 1 inch; moderately decomposed forest litter.

A—1 to 6 inches; black (10YR 2/1) fine sandy loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; many fine to coarse roots; about 2 percent gravel and 1 percent cobbles; moderately acid; clear smooth boundary.

E—6 to 7 inches; reddish gray (5YR 5/2) sandy loam, gray (10YR 6/1) dry; moderate medium subangular blocky structure; friable; many fine to coarse roots; about 2 percent gravel and 1 percent cobbles; moderately acid; abrupt wavy boundary.

Bhs—7 to 9 inches; dark reddish brown; (5YR 3/2) fine sandy loam; moderate medium subangular blocky structure; friable; many fine to coarse roots; about 2 percent gravel and 1 percent cobbles; moderately acid; clear wavy boundary.

Bs—9 to 19 inches; dark brown (7.5YR 4/4) sandy loam; moderate medium subangular blocky structure; friable; common fine to coarse roots; about 5 percent gravel and 1 percent cobbles; moderately acid; clear wavy boundary.

E/B—19 to 26 inches; brown (7.5YR 5/2) loamy sand (E), light brownish gray (10YR 6/2) dry; occupies about 70 percent of the horizon; surrounding peds of reddish brown (5YR 4/3) sandy loam (Bt); moderate medium subangular blocky structure; firm; few medium and coarse roots; about 5 percent gravel; slightly acid; gradual wavy boundary.

B/E—26 to 34 inches; reddish brown (5YR 4/3) sandy loam (Bt); few fine reddish brown (5YR 4/3) clay films on faces of peds; occupies about 85 percent of the horizon; surrounded by tongues of reddish brown (5YR 5/3) loamy sand (E); pinkish gray (7.5YR 6/2) dry; moderate medium subangular blocky structure; friable; few fine vesicular pores; few fine roots; about 5 percent gravel; neutral; gradual wavy boundary.

C—34 to 80 inches; brown (7.5YR 5/3) sandy loam; massive; friable; about 10 percent gravel; slightly effervescent; slightly alkaline.

Halfaday Series

The Halfaday series consists of very deep, moderately well drained, sandy soils on outwash plains and moraines. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 0 to 4 percent.

Typical pedon of Halfaday sand, 0 to 3 percent slopes; 800 feet west and 300 feet south of the northeast corner of sec. 4, T. 46 N., R. 17 W., Munising Township, Alger County, Michigan; USGS Melstrand, Michigan, topographic quadrangle; lat. 46 degrees 25 minutes 05 seconds N. and long. 86 degrees 25 minutes 55 seconds W., NAD 27:

Oa—0 to 2 inches; well decomposed forest litter; weak very fine subangular blocky structure; very friable; many very fine to coarse roots; very strongly acid; abrupt wavy boundary.

E—2 to 9 inches; pinkish gray (7.5YR 6/2) sand, light gray (7.5YR 7/1) dry; weak very fine subangular blocky structure; very friable; common very fine to coarse roots; about 2 percent gravel; very strongly acid; abrupt irregular boundary.

Bhs—9 to 10 inches; dark brown (7.5YR 3/3) sand; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 2 percent gravel; extremely acid; abrupt irregular boundary.

Bs1—10 to 20 inches; dark brown (7.5YR 3/4) sand; weak fine subangular blocky structure; friable; common very fine to medium roots; discontinuous vertical tongues of dark brown (7.5YR 3/3) and strong brown (7.5YR 4/6), strongly cemented ortstein occupy 20 percent (8 of 40 inches) of the horizon and extend into the Bs2 horizon to a depth of 50 inches; tongues are 2 to 5 inches wide and 6 to 24 inches apart; about 2 percent gravel; very strongly acid; gradual irregular boundary.

Bs2—20 to 35 inches; brown (7.5YR 4/4) sand; weak very fine subangular blocky structure; very friable; few very fine to medium roots; discontinuous vertical tongues of dark brown (7.5YR 3/3) and strong brown (7.5YR 4/6), strongly cemented ortstein occupy 12 percent (5 of 40 inches) of the horizon; tongues are 2 to 3 inches wide and 10 to 30 inches apart; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation at a depth of 27 to 35 inches; about 4 percent gravel; very strongly acid; gradual irregular boundary.

BC—35 to 50 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; about 4 percent gravel; strongly acid; gradual wavy boundary.

C—50 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; about 4 percent gravel; slightly acid.

Ingalls Series

The Ingalls series consists of deep, somewhat poorly drained soils on lake plains. These soils formed in sandy outwash overlying stratified loamy lacustrine sediments. Permeability is rapid in the overlying sandy part of the profile and moderately slow in the loamy part. Slopes range from 0 to 3 percent.

Typical pedon of Ingalls sand, 0 to 3 percent slopes; 2,200 feet south and 400 feet east of the northwest corner of sec. 16, T. 46 N., R. 19 W., Munising Township, Alger County, Michigan; USGS Munising, Michigan, topographic quadrangle; lat. 46 degrees 23 minutes 03 seconds N. and long. 86 degrees 41 minutes 54 seconds W., NAD 27:

Oa—0 to 4 inches; highly decomposed forest litter; moderate medium granular structure; very friable; many very fine to very coarse roots; ultra acid; clear wavy boundary.

A—4 to 5 inches; very dark grayish brown (10YR 3/2) sand, gray (10YR 6/1) dry; weak fine subangular blocky structure; very friable; many very fine to very coarse roots; about 1 percent gravel; extremely acid; abrupt wavy boundary.

E—5 to 14 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/1) dry; weak fine subangular blocky structure; loose; very few prominent very dark brown (10YR 2/2) organic stains on surfaces along root channels; common very fine to medium roots; about 1 percent gravel; extremely acid; abrupt irregular boundary.

Bhs—14 to 16 inches; dark reddish brown (5YR 2.5/2) sand; weak medium subangular blocky structure; very friable; about 35 percent strongly cemented dark reddish brown (5YR 3/4 and 3/2) ortstein that occurs intermittently on a horizontal plane; common very fine to medium roots; about 1 percent gravel; extremely acid; abrupt broken boundary.

Bs—16 to 22 inches; reddish brown (5YR 4/4) sand; weak medium subangular blocky structure; very friable; common medium distinct spherical yellowish red (5YR 5/8) iron-manganese masses on faces of peds; few very fine and fine roots; about 1 percent gravel; extremely acid; gradual irregular boundary.

Bw—22 to 35 inches; strong brown (7.5YR 5/6) sand; weak fine subangular blocky structure; loose; few very fine and fine roots; about 1 percent gravel; very strongly acid; abrupt wavy boundary.

2C—35 to 80 inches; reddish brown (2.5YR 5/4) and brown (7.5YR 5/3), stratified silt loam and silt; massive with some weak medium platy structure; friable; few very fine and fine roots; about 1 percent gravel; moderately acid.

Islandlake Series

The Islandlake series consists of very deep, somewhat excessively drained soils on disintegration moraines. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 0 to 60 percent.

Typical pedon of Islandlake sand, 0 to 6 percent slopes; 1,914 feet south and 2,310 feet west of the northeast corner of sec. 8, T. 43 N., R. 20 W., Masonville Township, Delta County, Michigan; USGS Lake Stella, Michigan, topographic quadrangle; lat. 46 degrees 08 minutes 01 second N. and long. 86 degrees 49 minutes 39 seconds W., NAD 27:

Oi—0 to 1 inch; slightly decomposed forest litter.

A—1 to 2 inches; black (7.5YR 2.5/1) sand, very dark gray (10YR 3/1) dry; weak very fine granular structure; very friable; many very coarse to very fine roots; about 1 percent fine gravel; very strongly acid; abrupt wavy boundary.

E—2 to 8 inches; brown (7.5YR 5/3) sand, gray (10YR 6/1) dry; weak very fine subangular blocky structure; very friable; many very coarse to very fine roots; about 1 percent fine gravel; extremely acid; clear wavy boundary.

Bhs—8 to 9 inches; dark reddish brown (5YR 2.5/2) sand; weak medium subangular blocky structure; very friable; many very coarse to very fine roots between columns of ortstein; columns of moderately cemented, dark reddish brown (5YR 3/2) and brown (7.5YR 5/4) ortstein 2 to 7 inches wide extend through this horizon into the Bs horizon; ortstein columns are 6 to 20 inches apart; ortstein occupies 22 percent of the horizon; about 1 percent fine gravel; very strongly acid; abrupt broken boundary.

Bs1—9 to 26 inches; strong brown (7.5YR 4/6) sand; weak very fine subangular blocky structure; very friable; many fine to medium and few coarse roots between ortstein columns; columns of moderately cemented, dark reddish brown (5YR 3/2

and 3/3) and brown (7.5YR 5/4) ortstein 2 to 7 inches wide extend through this horizon into the Bs2 horizon; ortstein columns are 6 to 20 inches apart; ortstein occupies 22 percent of the horizon; about 1 percent fine gravel; strongly acid; clear wavy boundary.

Bs2—26 to 41 inches; brown (7.5YR 5/4) sand; weak very fine subangular blocky structure; very friable; few very fine and fine roots between ortstein columns; columns of moderately cemented, dark reddish brown (5YR 3/2 and 3/3) and brown (7.5YR 5/4) ortstein 1 to 3 inches wide extend into this horizon from the Bs1 horizon; ortstein columns are 8 to 30 inches apart; ortstein occupies 5 percent of the horizon; about 1 percent fine gravel; strongly acid; abrupt wavy boundary.

E and Bt—41 to 80 inches; brown (7.5YR 5/3) sand (E´); single grain; loose; lamellae of reddish brown (5YR 4/4) loamy sand (Bt); very fine granular structure; very friable; lamellae are 1/8 to 1/4 inch thick; few fine roots; about 1 percent fine gravel; strongly acid.

Jacobsville Series

The Jacobsville series consists of moderately deep, poorly drained soils in depressions on bedrock-controlled moraines. These soils formed in loamy till overlying sandstone bedrock. Permeability is moderate. Slopes range from 0 to 2 percent.

Typical pedon of Jacobsville muck; 1,900 feet west and 1,800 feet north of the southeast corner of sec. 36, T. 55 N., R. 32 W., Torch Lake Township, Houghton County, Michigan; USGS Traverse Island, Michigan, topographic quadrangle:

Oa—0 to 5 inches; black (N 2.5/) muck; weak fine subangular blocky structure; very friable; many roots; strongly acid; abrupt smooth boundary.

Eg—5 to 9 inches; dark reddish gray (5YR 4/2) sandy loam; weak medium subangular blocky structure; friable; few roots; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation; about 5 percent gravel; strongly acid; clear wavy boundary.

Bw—9 to 23 inches; dark reddish brown (2.5YR 3/4) sandy loam; weak fine and medium subangular blocky structure; friable; common fine prominent dark brown (7.5YR 4/2) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation; about 5 percent gravel; moderately acid; clear wavy boundary.

C—23 to 36 inches; reddish brown (2.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; common medium prominent dark reddish gray (5YR 4/2) iron depletions and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; about 5 percent gravel; moderately acid; clear smooth boundary.

2R—36 inches; reddish brown (2.5YR 4/4) sandstone bedrock.

Jeske Series

The Jeske series consists of shallow, somewhat poorly drained soils on sandstone benches on bedrock-controlled moraines. These soils formed in sandy glaciofluvial deposits and in the underlying weathered sandstone (fig. 11). Permeability is rapid. Slopes range from 0 to 10 percent.

Typical pedon of Jeske sand, 0 to 4 percent slopes; 300 feet north and 200 feet east of the southwest corner of sec. 20, T. 46 N., R. 23 W., Skandia Township, Marquette County, Michigan; USGS Carlshend, Michigan, topographic quadrangle;

Figure 11.—Profile of Jeske sand. Sandstone bedrock is at a depth of about 70 centimeters.

lat. 46 degrees 21 minutes 55 seconds N. and long. 87 degrees 12 minutes 28 seconds W., NAD 27:

Oe—0 to 1 inch; moderately decomposed forest litter; weak thin platy structure; very friable; many very fine to coarse roots; very strongly acid; clear smooth boundary.

Oa—1 to 3 inches; black (N 2.5/), well decomposed forest litter; weak fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

C1—3 to 11 inches; light brownish gray (10YR 6/2) sand; single grain; loose; few very fine to medium roots; strongly acid; clear smooth boundary.

C2—11 to 21 inches; very pale brown (10YR 8/2) sand; single grain; loose; moderately acid; abrupt smooth boundary.

2Cr—21 to 31 inches; dark reddish brown (5YR 3/2), weathered sandstone; massive; very firm; moderately acid; abrupt wavy boundary.

2R—31 inches; light gray (10YR 7/2) and strong brown (7.5YR 5/6) sandstone bedrock.

Kalkaska Series

The Kalkaska series consists of very deep, somewhat excessively drained soils on disintegration moraines and outwash plains. These soils formed in sandy glaciofluvial deposits (fig. 12). Permeability is rapid. Slopes range from 0 to 70 percent.

Typical pedon of Kalkaska sand, 0 to 6 percent slopes; 1,400 feet west and 425 feet south of the northeast corner of sec. 31, T. 43 N., R. 15 W., Manistique Township, Schoolcraft County, Michigan; USGS Smith Lake, Michigan, topographic quadrangle; lat. 46 degrees 05 minutes 02 seconds N. and long. 86 degrees 13 minutes 27 seconds W., NAD 27:

A—0 to 2 inches; black (10YR 2/1) sand, very dark gray (10YR 3/1) dry; weak medium granular structure; very friable; common fine and medium and few coarse roots; very strongly acid; abrupt wavy boundary.

E—2 to 6 inches; brown (7.5YR 5/2) sand, gray (10YR 6/1) dry; weak medium subangular blocky structure; very friable; common fine to coarse roots; very strongly acid; clear irregular boundary.

Bhs—6 to 8 inches; dark reddish brown (5YR 3/3) sand; weak medium subangular blocky structure; very friable; common fine and medium and few coarse roots between columns of ortstein; columns of strongly cemented, dark reddish brown (5YR 3/2) and brown (7.5YR 5/4) ortstein 3 to 10 inches wide extend through this horizon into the Bs horizon; ortstein columns are 6 to 20 inches apart; ortstein occupies 20 percent of the horizon; very strongly acid; clear irregular boundary.

Bs—8 to 16 inches; strong brown (7.5YR 4/6) sand; weak fine subangular blocky structure; very friable; few fine and medium roots between ortstein columns; columns of moderately strongly cemented, dark reddish brown (5YR 3/2 and 3/3) and brown (7.5YR 5/4) ortstein 3 to 7 inches wide extend through this horizon into the BC horizon; ortstein columns are 6 to 20 inches apart; ortstein occupies 10 percent of the horizon; strongly acid; clear wavy boundary.

BC—16 to 26 inches; strong brown (7.5YR 5/6) sand; single grain; loose; few fine roots between horizon; few fine roots between ortstein columns; columns of moderately strongly cemented, dark reddish brown (5YR 3/2 and 3/3) and brown (7.5YR 5/4) ortstein 1 to 3 inches wide extend into this horizon from the Bs horizon; ortstein columns are 8 to 30 inches apart; ortstein occupies 5 percent of the horizon; strongly acid; gradual wavy boundary.

C1—26 to 42 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few fine roots; moderately acid; gradual wavy boundary.

C2—42 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; moderately acid.

Kinross Series

The Kinross series consists of very deep, poorly drained, sandy soils on lake plains and outwash plains. Permeability is rapid. Slopes range from 0 to 2 percent.

Typical pedon of Kinross muck; 200 feet east and 300 feet south of the northwest corner of sec. 15, T. 47 N., R. 9 W., McMillan Township, Luce County, Michigan; USGS Roy Lake North, Michigan, topographic quadrangle; lat. 46 degrees 40 minutes 42 seconds N. and long. 85 degrees 16 minutes 56 seconds W., NAD 27:

Oa—0 to 3 inches; dark reddish brown (5YR 3/2) muck; friable; many fine to coarse roots; extremely acid; abrupt wavy boundary.

Eg—3 to 14 inches; 50 percent grayish brown (10YR 5/2) and 50 percent dark gray (10YR 4/1) sand, light gray (10YR 7/1) and gray (10YR 6/1) dry; weak medium subangular blocky structure; friable; few fine roots; 1 percent gravel; extremely acid; gradual wavy boundary.

Figure 12.—Profile of Kalkaska sand. Depth is marked in centimeters.

Bhs—14 to 22 inches; dark brown (7.5YR 3/3) sand; weak medium subangular blocky structure; friable; few fine roots; few medium faint dark brown (7.5YR 3/2) masses of iron accumulation along root channels; strongly acid; gradual wavy boundary.

Bs—22 to 35 inches; dark yellowish brown (10YR 4/4) sand; weak medium subangular blocky structure; friable; strongly acid; gradual wavy boundary.

C—35 to 80 inches; yellowish brown (10YR 5/4) sand; single grain; loose; strongly acid.

Kiva Series

The Kiva series consists of very deep, well drained soils on outwash plains. These soils formed in loamy eolian deposits over sandy outwash. Permeability is moderate in the loamy part and very rapid in the sandy part. Slopes range from 1 to 35 percent.

Typical pedon of Kiva fine sandy loam, 1 to 6 percent slopes; 900 feet west and 250 feet south of the northeast corner of sec. 26, T. 44 N., R. 21 W., Mathias Township, Alger County, Michigan; USGS Trenary, Michigan, topographic quadrangle; lat. 46 degrees 11 minutes 13 seconds N. and long. 86 degrees 53 minutes 22 seconds W., NAD 27:

A—0 to 3 inches; black (7.5YR 2.5/1) fine sandy loam, gray (7.5YR 5/1) dry; moderate very fine granular structure; friable; many very fine to coarse roots; about 4 percent gravel and 1 percent cobbles; moderately acid; abrupt broken boundary.

E—3 to 6 inches; brown (7.5YR 5/2) loamy fine sand, pinkish gray (7.5YR 7/2) dry; weak very fine subangular blocky structure; very friable; many very fine to coarse roots; about 4 percent gravel and 1 percent cobbles; few very fine vesicular pores; moderately acid; abrupt wavy boundary.

Bs1—6 to 15 inches; dark brown (7.5YR 3/4) fine sandy loam; weak fine and very fine subangular blocky structure; friable; many very fine to coarse roots; about 8 percent gravel and 2 percent cobbles; few very fine vesicular pores; moderately acid; gradual wavy boundary.

2Bs2—15 to 23 inches; brown (7.5YR 4/4) gravelly loamy sand; weak fine and very fine subangular blocky structure; very friable; common very fine to medium roots; about 15 percent gravel and 4 percent cobbles; few very fine vesicular pores; moderately acid; gradual irregular boundary.

2BC—23 to 38 inches; brown (7.5YR 5/4) very gravelly sand; weak very fine subangular blocky structure; very friable; common very fine and fine roots; about 35 percent gravel and 8 percent cobbles; slightly alkaline; slightly effervescent; gradual wavy boundary.

2C—38 to 80 inches; yellowish brown (10YR 5/4), stratified sand and very gravelly sand; single grain; loose; few very fine and fine roots; about 40 percent gravel and 10 percent cobbles; slightly effervescent; moderately alkaline.

Levasseur Series

The Levasseur series consists of shallow, somewhat poorly drained soils on bedrock benches. These soils formed in sandy and very channery wave-worked glaciofluvial deposits overlying sandstone bedrock (fig. 13). Permeability is very rapid. Slopes range from 0 to 3 percent.

Typical pedon of Levasseur extremely flaggy sand, in an area of Levasseur-Burt complex, 0 to 3 percent slopes, very stony; 1,900 feet east and 800 feet south of the northwest corner of sec. 35, T. 48 N., R. 22 W., Onota Township, Alger County, Michigan; USGS Laughing Fish Point, Michigan, topographic quadrangle; lat. 46 degrees 31 minutes 11 seconds N. and long. 87 degrees 01 minute 28 seconds W., NAD 27:

Oi—0 to 1 inch; very dark brown (7.5YR 2.5/2), slightly decomposed forest litter; massive; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

Oa—1 to 3 inches; black (5YR 2.5/1), well decomposed forest litter; moderate very fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

Figure 13.—Profile of Levasseur extremely flaggy sand. Jacobsville Sandstone is at a depth of about 13 inches.

E—3 to 8 inches; dark reddish gray (5YR 4/2) extremely flaggy sand, pinkish gray (5YR 6/2) dry; weak very fine granular structure; very friable; many very fine to coarse roots; extremely acid; about 45 percent flagstones and 25 percent channers; clear wavy boundary.

Bw—8 to 13 inches; dark yellowish brown (10YR 4/4) extremely flaggy sand; weak very fine subangular blocky structure; very friable; few fine faint dark yellowish brown (10YR 4/6) masses of iron accumulation; common very fine to medium roots and few coarse roots; about 45 percent flagstones and 25 percent channers; extremely acid; abrupt smooth boundary.

2R—13 inches; red (2.5YR 4/6) and white (2.5YR 8/1) Jacobsville Sandstone; common medium distinct dark brown (10YR 3/3) masses of iron concentration on the surface of the bedrock.

Liminga Series

The Liminga series consists of very deep, well drained, sandy soils on moraines and outwash plains. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 0 to 6 percent.

Typical pedon of Liminga fine sand, 0 to 6 percent slopes; 400 feet east and 3,100 feet south of the northwest corner of sec. 33, T. 45 N., R. 10 W., Pentland Township, Luce County, Michigan; USGS Newberry, Michigan, topographic quadrangle; lat. 46 degrees 15 minutes 05 seconds N. and long. 85 degrees 34 minutes 12 seconds W., NAD 27:

Oe—0 to 1 inch; partially decomposed leaf litter; common fine roots; extremely acid; abrupt smooth boundary.

E—1 to 7 inches; brown (7.5YR 4/2) fine sand, brown (7.5YR 5/2) dry; weak fine subangular blocky structure; friable; many fine to coarse roots; extremely acid; abrupt wavy boundary.

Bhs—7 to 9 inches; dark brown (7.5YR 3/2) fine sand; weak fine subangular blocky structure; friable; many fine to coarse roots; extremely acid; abrupt broken boundary.

Bs1—9 to 12 inches; strong brown (7.5YR 4/6) fine sand; weak fine subangular blocky structure; friable; common fine to coarse roots; extremely acid; abrupt broken boundary.

Bs2—12 to 22 inches; strong brown (7.5YR 5/6) fine sand; weak fine subangular blocky structure; friable; common fine roots; ortstein occupies 30 percent of the horizon and is moderately cemented; ortstein occurs as tongues 2 to 5 inches wide; tongues of ortstein extend to a depth of 29 inches; extremely acid; clear irregular boundary.

BC—22 to 31 inches; brownish yellow (10YR 6/6) fine sand; single grain; loose; extremely acid; clear wavy boundary.

C—31 to 80 inches; brownish yellow (10YR 6/6) fine sand; single grain; loose; one thin reddish brown (5YR 5/4) band; extremely acid.

Longrie Series

The Longrie series consists of moderately deep, well drained soils on ground moraines. These soils formed in loamy till deposits underlain by dolomitic sandstone. Permeability is moderate. Slopes range from 1 to 15 percent.

Typical pedon of Longrie sandy loam, 1 to 6 percent slopes; 2,300 feet east and 2,500 feet south of the northwest corner of sec. 17, T. 44 N., R. 6 W., Trout Lake Township, Chippewa County, Michigan; USGS Trout Lake, Michigan, topographic quandrangle; lat. 46 degrees 12 minutes 27 degrees N. and long. 85 degrees 04 minutes 55 seconds W., NAD 27:

A—0 to 4 inches; black (5YR 2/1) sandy loam, dark gray (7.5YR 4/1) dry; moderate medium granular structure; friable; many fine to coarse roots; moderately acid; clear smooth boundary.

E—4 to 9 inches; reddish gray (5YR 5/2) sandy loam; moderate medium subangular blocky structure; friable; many fine to coarse roots; moderately acid; clear wavy boundary.

Bhs—9 to 11 inches; dark reddish brown (5YR 3/3) fine sandy loam; moderate medium subangular blocky structure; friable; many fine to coarse roots; moderately acid; clear irregular boundary.

Bs—11 to 27 inches; reddish brown (5YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; many fine and medium roots; moderately acid; clear wavy boundary.

C—27 to 31 inches; light brown (7.5YR 6/4) gravelly loam; massive; friable; common fine and medium roots; about 15 percent gravel and 5 percent cobbles; strong effervescence; moderately alkaline; abrupt smooth boundary.

2R—31 inches; limestone bedrock.

Loxley Series

The Loxley series consists of very deep, very poorly drained soils in closed depressions on outwash plains, ground moraines, and disintegration moraines. These soils formed in herbaceous material more than 51 inches thick. Permeability is moderately slow to moderately rapid. Slopes are 0 to 1 percent.

Typical pedon of Loxley peat, in an area of Dawson, Loxley, and Greenwood soils; 1,320 feet east and 50 feet south of the northwest corner of sec. 14, T. 45 N., R. 9 W., Lakefield Township, Luce County, Michigan; USGS McMillan, Michigan, topographic quadrangle; lat. 46 degrees 17 minutes 20 seconds N. and long. 85 degrees 38 minutes 31 seconds W., NAD 27:

Oi—0 to 8 inches; peat, dark yellowish brown (10YR 4/4) broken face and yellowish brown (10YR 5/4) rubbed; 100 percent sphagnum moss fibers, 95 percent rubbed; weak thick platy structure; friable; common fine and medium roots; extremely acid; abrupt smooth boundary.

Oa1—8 to 15 inches; muck, black (5YR 2/1) broken face and rubbed; about 45 percent fibers, 5 percent rubbed; weak thick platy structure; friable; fibers are herbaceous; common fine and medium roots; very strongly acid; clear smooth boundary.

Oa2—15 to 45 inches; muck, dark reddish brown (5YR 2/2) broken face and rubbed; about 45 percent fibers, 5 percent rubbed; massive; friable; fibers are herbaceous; very strongly acid; clear smooth boundary.

Oa3—45 to 80 inches; muck, dark reddish brown (5YR 2/2) broken face and rubbed; about 55 percent fibers, 5 percent rubbed; massive; friable; fibers are herbaceous; very strongly acid.

Lupton Series

The Lupton series consists of very deep, very poorly drained soils in depressions on ground moraines, disintegration moraines, bedrock-controlled moraines, and outwash plains. These soils formed in woody deposits more than 51 inches thick. Permeability is moderately slow to moderately rapid. Slopes range from 0 to 2 percent.

Typical pedon of Lupton peat, in an area of Carbondale, Lupton, and Tawas soils; 462 feet north and 2,310 feet east of the southwest corner of sec. 18, T. 42 N., R. 13 W., Mueller Township, Schoolcraft County, Michigan; USGS Blaney Park, Michigan, topographic quadrangle; lat. 46 degrees 01 minute 43 seconds N. and long. 85 degrees 58 minutes 45 seconds W., NAD 27:

Oi—0 to 4 inches; peat, black (7.5YR 2.5/1) broken face and rubbed; about 90 percent fiber unrubbed, 80 percent rubbed; weak coarse granular structure; friable; many fine and common medium and coarse roots; neutral; abrupt smooth boundary.

Oa1—4 to 14 inches; muck, black (5YR 2.5/1) broken face and rubbed; about 5 percent fiber, 1 percent rubbed; weak medium granular structure; friable; few fine to coarse roots; about 5 percent woody fragments throughout; slightly alkaline; abrupt smooth boundary.

Oa2—14 to 40 inches; muck, black (N 2/) broken face and rubbed; about 15 percent fiber unrubbed, a trace rubbed; massive; friable; few fine roots; about 3 percent woody fragments throughout; slightly alkaline; abrupt smooth boundary.

Oa3—40 to 80 inches; muck, black (N 2/) broken face and rubbed; about 15 percent fiber unrubbed, a trace rubbed; massive; friable; about 3 percent woody fragments throughout; slightly alkaline.

Markey Series

The Markey series consists of very deep, very poorly drained soils in depressions on outwash plains. These soils formed in herbaceous material 16 to 50 inches thick overlying sandy outwash deposits. Permeability is moderately slow to moderately

rapid in the organic material and rapid in the underlying sandy material. Slopes are 0 to 1 percent.

Typical pedon of Markey mucky peat; 1,100 feet east and 2,480 feet south of the northwest corner of sec. 27, T. 46 N., R. 17 W., Munising Township, Alger County, Michigan; USGS Shingleton, Michigan, topographic quadrangle; lat. 46 degrees 21 minutes 18 seconds N. and long. 86 degrees 25 minutes 29 seconds W., NAD 27:

Oe—0 to 3 inches; mucky peat, very dark brown (10YR 2/2) broken face and black (10YR 2/1) rubbed; about 50 percent fiber, 25 percent rubbed; weak fine granular structure; friable; fibers are herbaceous; many very fine and fine roots; extremely acid; abrupt smooth boundary.

Oa1—3 to 9 inches; muck, very dark gray (10YR 3/1) broken face and rubbed; about 20 percent fibers, less than 5 percent rubbed; weak medium platy structure; friable; fibers are herbaceous; many very fine and fine roots; very strongly acid; clear smooth boundary.

Oa2—9 to 20 inches; muck, very dark grayish brown (10YR 3/2) broken face and very dark gray (10YR 3/1) rubbed; about 10 percent fibers, less than 5 percent rubbed; weak medium platy structure; friable; fibers are herbaceous; many very fine and fine roots; very strongly acid; abrupt smooth boundary.

2Cg1—20 to 27 inches; dark grayish brown (10YR 4/2) sand; single grain; loose; few very fine roots at top of horizon; very strongly acid; gradual smooth boundary.

2Cg2—27 to 80 inches; brown (10YR 5/3) sand; single grain; loose; very strongly acid.

Mashek Series

The Mashek series consists of very deep, moderately well drained soils on ground moraines. These soils are moderately deep or deep to dense till. They formed in loamy till over gravelly and sandy outwash deposits. Permeability is moderate above the dense till, moderately slow in the dense till, and rapid in the sandy part of the profile. Slopes range from 0 to 4 percent.

Typical pedon of Mashek fine sandy loam, sandy substratum, 0 to 4 percent slopes; 2,100 feet south and 1,300 feet west of the northeast corner of sec. 16, T. 46 N., R. 17 W., Munising Township, Alger County, Michigan; USGS Melstrand, Michigan, topographic quadrangle; lat. 46 degrees 23 minutes 05 seconds N. and long. 86 degrees 25 minutes 58 seconds W., NAD 27:

A—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 4 percent gravel; strongly acid; clear smooth boundary.

Bs—6 to 11 inches; brown (7.5YR 4/4) loamy sand; weak medium subangular blocky structure; very friable; common very fine to medium roots; about 4 percent gravel; strongly acid; gradual wavy boundary.

E/B—11 to 23 inches; light brown (7.5YR 6/4) loamy sand, pinkish gray (7.5YR 7/2) dry (E); occupies about 60 percent of the horizon; surrounding isolated remnants of brown (7.5YR 4/4) fine sandy loam (Bt); moderate medium subangular blocky structure; friable; common very fine to medium roots; common very fine vesicular pores; about 6 percent gravel and 2 percent cobbles; moderately acid; gradual wavy boundary.

B/E—23 to 38 inches; brown (7.5YR 4/4) fine sandy loam (Bt); few faint dark brown (7.5YR 3/4) clay films on face of peds; occupies about 60 percent of the horizon; surrounded by light brown (7.5YR 6/4) loamy sand, pinkish gray (7.5YR 7/2) dry (E); moderate medium subangular blocky structure; friable; common very fine to medium roots; common very fine vesicular pores; about 6 percent gravel and 2 percent cobbles; moderately acid; clear wavy boundary.

2Cd—38 to 63 inches; strong brown (7.5YR 5/4) gravelly fine sandy loam; massive with weakly expressed thin plates inherent from deposition; friable; few very fine and fine roots; about 20 percent gravel, 8 percent cobbles, and 5 percent stones; neutral; clear wavy boundary.

3C—63 to 80 inches; yellowish brown (10YR 5/4) very gravelly sand; single grain; loose; few very fine and fine roots; about 30 percent gravel, 6 percent cobbles, and 4 percent stones; moderately acid.

McMaster Series

The McMaster series consists of very deep, moderately well drained soils on recessional moraines and in glacial drainage channels. These soils formed in a loamy mantle overlying sandy and gravelly outwash. Permeability is moderately rapid in the loamy mantle and very rapid in the sandy part of the profile. Slopes range from 0 to 4 percent.

Typical pedon of McMaster cobbly sandy loam, 0 to 4 percent slopes; 600 feet east and 150 feet south of the northwest corner of sec. 30, T. 45 N., R. 21 W., Limestone Township, Alger County, Michigan; USGS Chatham, Michigan, topographic quadrangle; lat. 46 degrees 16 minutes 30.29 seconds N. and long. 86 degrees 59 minutes 19.53 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed forest litter; moderate fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt wavy boundary.

A—2 to 4 inches; very dark gray (7.5YR 3/1) cobbly sandy loam, dark gray (7.5YR 4/1) dry; moderate fine granular structure; friable; many very fine to coarse roots; about 17 percent cobbles and 16 percent gravel; strongly acid; abrupt wavy boundary.

E—4 to 8 inches; brown (7.5YR 4/2) very cobbly loamy sand, light brownish gray (10YR 6/2) dry; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 17 percent cobbles and 20 percent gravel; strongly acid; abrupt wavy boundary.

Bhs—8 to 11 inches; dark brown (7.5YR 3/3) very cobbly sandy loam; moderate fine subangular blocky structure; friable; many very fine to coarse roots; about 17 percent cobbles and 20 percent gravel; strongly acid; clear wavy boundary.

2Bs—11 to 24 inches; dark brown (7.5YR 3/4) very gravelly loamy sand; weak fine subangular blocky structure; friable; common very fine to medium roots; about 30 percent gravel, 12 percent cobbles, and 2 percent stones; neutral; clear wavy boundary.

2BC—24 to 39 inches; dark yellowish brown (10YR 4/4) very gravelly coarse sand; weak very fine subangular blocky structure; very friable; common very fine to medium roots; about 40 percent gravel, 15 percent cobbles, and 2 percent stones; slightly effervescent; moderately alkaline; gradual wavy boundary.

2C—39 to 80 inches; yellowish brown (10YR 5/4) extremely gravelly coarse sand; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; single grain; loose; few very fine and fine roots; about 50 percent gravel, 21 percent cobbles, and 2 percent stones; slightly effervescent; moderately alkaline.

McMillan Series

The McMillan series consists of very deep, well drained soils on moraines. These soils formed in sandy sediments with a thin loamy cap. Permeability is moderate in the upper loamy part of the profile and rapid in the lower sandy sediments. Slopes range from 1 to 35 percent.

Typical pedon of McMillan fine sandy loam; 1,000 feet east and 1,250 feet south of the northwest corner of sec. 4, T. 45 N., R. 11 W., Lakefield Township, Luce County, Michigan; USGS McMillan topographic quadrangle; lat. 46 degrees 19 minutes 50 seconds N. and long. 85 degrees 41 minutes 35 seconds W., NAD 27:

Oe—0 to 1 inch; partially decomposed forest litter; common fine roots; abrupt smooth boundary.

A—1 to 4 inches; very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; many fine to coarse roots; 2 percent gravel; very strongly acid; abrupt wavy boundary.

E—4 to 6 inches; brown (7.5YR 5/2) fine sandy loam, pinkish gray (7.5YR 6/2) dry; moderate medium subangular blocky structure; friable; many fine to coarse roots; very strongly acid; abrupt broken boundary.

Bhs—6 to 9 inches; dark brown (7.5YR 3/3) very fine sandy loam; moderate medium subangular blocky structure; friable; many fine to coarse roots; 5 percent gravel; very strongly acid; clear irregular boundary.

Bs1—9 to 16 inches; brown (7.5YR 4/4) very fine sandy loam; moderate medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary.

Bs2—16 to 22 inches; strong brown (7.5YR 5/6) loamy fine sand; moderate medium subangular blocky structure; friable; few fine roots; strongly acid; gradual wavy boundary.

Bw—22 to 32 inches; reddish yellow (7.5YR 6/6) sand; weak medium subangular blocky structure; friable; few fine roots; strongly acid; gradual wavy boundary.

E and Bt—32 to 80 inches; 70 percent light brown (7.5YR 6/3) sand (E), pinkish gray (7.5YR 7/2) dry; 30 percent lamellae of brown (7.5YR 5/4) loamy sand (Bt); massive; friable; few fine roots; 1 percent gravel; strongly acid.

Meehan Series

The Meehan series consists of very deep, somewhat poorly drained soils in swales between beach ridges. These soils formed in sandy lacustrine deposits. Permeability is rapid. Slopes range from 0 to 2 percent.

Typical pedon of Meehan sand, in an area of Wurtsmith-Meehan sands, 0 to 8 percent slopes; 200 feet east and 550 feet south of the northwest corner of sec. 13, T. 47 N., R. 19 W.; Grand Island Township, Alger County, Michigan; USGS Munising, Michigan, topographic quadrangle:

Oa—0 to 3 inches; well decomposed forest litter.

A—3 to 5 inches; very dark gray (10YR 2/1) sand, gray (10YR 4/1) dry; weak very fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

Bw1—5 to 11 inches; yellowish brown (10YR 5/4) sand; single grain; loose; few very fine and fine roots; very strongly acid; gradual wavy boundary.

Bw2—11 to 28 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few very fine and fine roots; very strongly acid; gradual wavy boundary.

C—28 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; very strongly acid.

Mongo Series

The Mongo series consists of very deep, well drained soils on dissected lake plains. These soils formed in silty and clayey glaciolacustrine sediments. Permeability is very slow. Slopes range from 8 to 45 percent.

Typical pedon of Mongo silt loam, 8 to 45 percent slopes, dissected; 1,400 feet east and 2,350 feet south of the northwest corner of sec. 16, T. 46 N., R. 19 W., Au Train Township, Alger County, Michigan; USGS Munising, Michigan, topographic quadrangle; lat. 46 degrees 23 minutes 04 seconds N. and long. 86 degrees 41 minutes 40 seconds W., NAD 27:

Oi—0 to 1 inch; partially decomposed plant material; many very fine to very coarse roots; abrupt smooth boundary.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, light gray (10YR 7/1) dry; moderate medium granular structure; friable; many very fine to very coarse roots; very strongly acid; clear wavy boundary.

A/E—4 to 6 inches; very dark grayish brown (10YR 3/2) silt loam (A), light gray (10YR 7/1) dry; light brownish gray (10YR 6/2) silt loam (E), pinkish gray (7.5YR 7/2) dry; moderate medium granular structure; friable; many very fine to very coarse roots; common very fine and fine vesicular pores; very strongly acid; clear wavy boundary.

E/B—6 to 11 inches; light brown (7.5YR 6/4) silt loam (E), white (7.5YR 8/1) dry; occupies about 80 percent of the horizon; surrounding isolated remnants of reddish brown (5YR 5/4) silt loam (Bt); weak fine subangular blocky structure; friable; many very fine to very coarse roots; few very fine vesicular pores; strongly acid; clear wavy boundary.

B/E—11 to 22 inches; reddish brown (2.5YR 4/4) silty clay loam (Bt); common distinct reddish brown (2.5YR 5/4) clay films on faces of peds and in root channels; occupies about 55 percent of the horizon; surrounding light reddish brown (5YR 6/3) silt loam, pinkish white (5YR 8/2) dry (E); moderate medium subangular blocky structure; firm; common very fine to very coarse roots; few very fine vesicular pores; strongly acid; gradual wavy boundary.

Bt—22 to 38 inches; reddish brown (2.5YR 4/4) silty clay; weak coarse subangular blocky structure; firm; common distinct reddish brown (2.5YR 5/4) clay films on faces of peds and in root channels; few very fine and fine roots; slightly acid; gradual wavy boundary.

C—38 to 80 inches; reddish brown (2.5YR 4/4) silt loam and stratified pinkish gray (5YR 6/2) silty clay loam and silt; massive; friable; slightly effervescent; slightly alkaline.

Munising Series

The Munising series consists of very deep, moderately well drained soils on bedrock-controlled moraines. These soils are shallow or moderately deep to a fragipan (fig. 14). They formed in loamy till. Permeability is moderate in the upper part of the profile, very slow in the fragipan, and moderate below the fragipan. Slopes range from 1 to 15 percent.

Typical pedon of Munising loamy sand, 1 to 8 percent slopes; about 1,000 feet north and 1,100 feet east of the center of sec. 4, T. 51 N., R. 31 W., Arvon Township, Baraga County, Michigan; USGS Skanee South, Michigan, topographic quadrangle:

Oe—0 to 1 inch; partially decomposed forest litter; many roots; very strongly acid; abrupt smooth boundary.

A—1 to 2 inches; black (5YR 2/1) loamy sand, gray (5YR 5/1) dry; weak fine granular structure; friable; many roots; about 2 percent gravel; very strongly acid; abrupt smooth boundary.

E—2 to 10 inches; pinkish gray (5YR 6/2) loamy sand; weak fine subangular blocky structure; friable; common roots; about 2 percent gravel; very strongly acid; abrupt wavy boundary.

Figure 14.—Profile of Munising fine sandy loam. The fragipan is at a depth of about 24 inches.

Bhs—10 to 14 inches; dark reddish brown (5YR 3/3) sandy loam; weak very coarse granular structure; friable with some strongly cemented tongues; many roots; about 2 percent gravel; very strongly acid; clear wavy boundary.

Bs—14 to 22 inches; reddish brown (5YR 4/3) sandy loam; weak coarse subangular blocky structure; slightly hard when dry; friable; common roots; about 2 percent gravel; very strongly acid; clear wavy boundary.

Bx—22 to 30 inches; reddish brown (2.5YR 4/4) loamy sand; weak thick platy structure; slightly hard and brittle when dry; firm; few roots; about 2 percent gravel; few fine faint yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Ex—30 to 41 inches; pinkish gray (5YR 6/2) loamy sand; few reddish brown (2.5YR 4/4) pieces that appear to be remnants of Bt material; massive; very hard and brittle; very firm; vesicular; about 2 percent gravel; strongly acid; abrupt irregular boundary.

(B/E)x—41 to 49 inches; reddish brown (2.5YR 4/4) sandy loam (Bt); common vesicular pores; thin clay flows in pores; occupies about 80 percent of the horizon surrounded by tongues of pinkish gray (5YR 6/2) sandy loam (E); massive; very hard and brittle; very firm; about 2 percent gravel; very strongly acid; clear wavy boundary.

Bt—49 to 63 inches; reddish brown (2.5YR 4/4) sandy loam; massive; friable; clay flows along vertical faces of peds and in pores; about 2 percent gravel; very strongly acid; gradual wavy boundary.

C—63 to 83 inches; reddish brown (2.5YR 4/4) sandy loam; massive; friable; about 3 percent gravel; moderately acid.

Nahma Series

The Nahma series consists of moderately deep, very poorly drained soils on ground moraines and in glacial drainage channels. These soils formed in loamy till overlying limestone and dolomitic sandstone bedrock. Permeability is moderate. Slopes range from 0 to 2 percent.

Typical pedon of Nahma muck, in an area of Nahma-Sundell complex; 600 feet north and 2,075 feet west of the southeast corner of sec. 35, T. 42 N., R. 25 W., Marquette County, Michigan; USGS La Branche, Michigan, topographic quadrangle; lat. 45 degrees 59 minutes 15 seconds N. and long. 87 degrees 23 minutes 46 seconds W.

Oa1—0 to 7 inches; black (N 2.5/) muck; weak very fine granular structure; very friable; many very fine to coarse roots; about 1 percent gravel and 1 percent cobbles; neutral; clear smooth boundary.

Oa2—7 to 11 inches; black (N 2.5/) muck; moderate medium granular structure; very friable; many very fine to coarse roots; about 1 percent gravel and 1 percent cobbles; neutral; abrupt smooth boundary.

A—11 to 14 inches; very dark grayish brown (10YR 2/1) mucky loam, dark gray (10YR 4/1) dry; moderate medium granular structure; very friable; few very fine to medium roots; about 1 percent gravel and 2 percent cobbles; slightly alkaline; abrupt wavy boundary.

Bg—14 to 17 inches; dark gray (10YR 4/1) loam; moderate medium platy structure; friable; few very fine to medium roots; common medium distinct brown (10YR 4/3) masses of iron accumulation; about 5 percent gravel and 2 percent cobbles; slightly alkaline; clear wavy boundary.

Bw—17 to 19 inches; brown (10YR 4/3) loam; moderate medium platy structure; friable; few very fine to medium roots; few medium distinct dark grayish brown (10YR 4/2) iron depletions; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; about 5 percent gravel and 2 percent cobbles; slightly alkaline; clear wavy boundary.

2C—19 to 24 inches; brown (7.5YR 5/4) gravelly fine sandy loam; massive with weakly expressed medium platiness inherent from deposition; friable; few very fine to medium roots; common fine distinct dark grayish brown (10YR 4/2) iron depletions; many fine distinct strong brown (7.5YR 5/8) masses of iron accumulation; about 14 percent gravel and 3 percent cobbles; slightly effervescent; moderately alkaline; abrupt smooth boundary.

3R—24 inches; dolomitic sandstone bedrock.

Namur Series

The Namur series consists of very shallow, excessively drained soils in glacial drainage channels. These soils formed in loamy glaciofluvial deposits. Permeability is moderate. Slopes range from 0 to 2 percent.

Typical pedon of Namur silt loam, in an area of Namur-Ruse complex, 0 to 2 percent slopes, very rocky, very stony; 800 feet north and 700 feet west of the southeast corner of sec. 13, T. 44 N., R. 21 W., Mathias Township, Alger County, Michigan; USGS Lake Stella, Michigan, topographic quadrangle; lat. 46 degrees 12 minutes 14 seconds N. and long. 86 degrees 52 minutes 05 seconds W., NAD 27:

A—0 to 3 inches; black (10YR 2/1) silt loam, brown (7.5YR 5/2) dry; moderate fine granular structure; friable; many very fine and fine and few medium and coarse roots; about 10 percent gravel; slightly acid; clear broken boundary.

Bw—3 to 6 inches; dark brown (7.5YR 3/4) silt loam; weak medium subangular blocky structure; friable; many very fine and fine and few medium and coarse roots; about 10 percent gravel; slightly alkaline; abrupt smooth boundary.
2R—6 inches; fractured limestone bedrock.

Nykanen Series

The Nykanen series consists of shallow, moderately well drained soils on eroded bedrock terraces in glacial drainage channels. These soils formed in a loamy mantle and in the underlying weathered dolomitic sandstone. Permeability is moderate. Slopes range from 1 to 45 percent.

Typical pedon of Nykanen very fine sandy loam, in an area of Ruse-Ensign-Nykanen complex, bedrock terrace, 1 to 20 percent slopes; about 600 feet north and 700 feet east of the southwest corner of sec. 27, T. 48 N., R. 17 W., Rock River Township, Alger County, Michigan; USGS Chatham, Michigan, topographic quadrangle; lat. 46 degrees 20 minutes 57 seconds N. and long. 86 degrees 55 minutes 34 seconds W., NAD 27:

A—0 to 4 inches; very dark gray (10YR 3/1) very fine sandy loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; many very fine to very coarse roots; about 2 percent channers; very strongly acid; clear broken boundary.
BA—4 to 14 inches; dark brown (7.5YR 3/4) and very dark gray (10YR 3/1) very fine sandy loam, brown (7.5YR 5/4) and gray (10YR 5/1) dry; moderate very fine subangular blocky structure; friable; common medium faint dark gray (10YR 4/1) worm casts on faces of peds; many very fine to medium roots; about 12 percent partially weathered dolomitic sandstone channers; strongly acid; gradual smooth boundary.
2Cr—14 to 25 inches; yellowish brown (10YR 5/4), weathered dolomitic sandstone; moderate very thick platy rock structure; friable to extremely firm; many very fine to fine roots in horizontal cracks; neutral; gradual smooth boundary.
2R—25 inches; yellowish brown (10YR 5/4) dolomitic sandstone; common very fine and fine roots in horizontal fractures in the upper 12 inches.

Paavola Series

The Paavola series consists of very deep, moderately well drained soils on bedrock-controlled moraines. These soils are moderately deep to a fragipan (fig. 15). They formed in gravelly or cobbly sandy deposits over loamy till. Permeability is very rapid in the sandy part of the profile and very slow in the loamy part. Slopes range from 0 to 6 percent.

Typical pedon of Paavola gravelly coarse sandy loam, in an area of Trimountain-Paavola-Waiska complex, 1 to 8 percent slopes; about 250 feet south and 300 feet west of the northeast corner of sec. 15, T. 55 N., R. 33 W., Quincy Township, Houghton County, Michigan; USGS Hancock, Michigan, topographic quadrangle:

Oe—0 to 2 inches; partially decomposed forest litter.
A—2 to 6 inches; dark reddish brown (5YR 2/2) gravelly coarse sandy loam, pinkish gray (5YR 6/2) dry; moderate medium granular structure; friable; many fine to coarse roots; about 22 percent gravel and 10 percent cobbles; strongly acid; clear smooth boundary.
Bhs—6 to 15 inches; dark reddish brown (5YR 3/3) extremely gravelly loamy coarse sand; weak fine subangular blocky structure; very friable; many fine to coarse roots; about 55 percent gravel and 20 percent cobbles; strongly acid; clear wavy boundary.

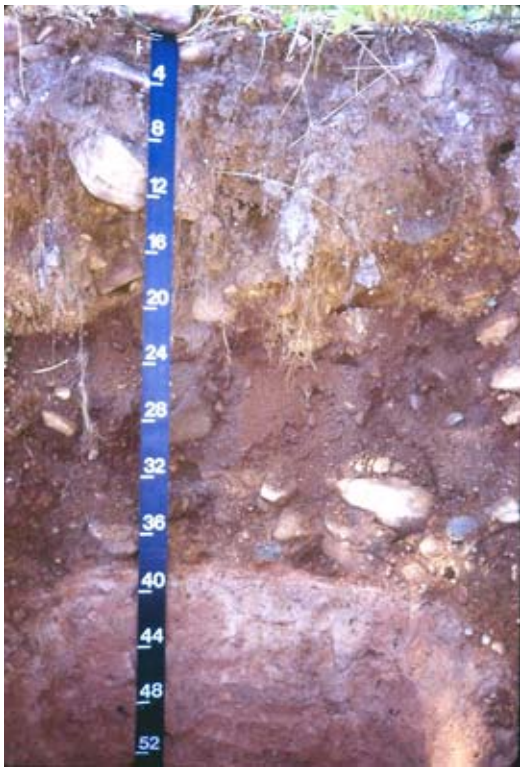

Figure 15.—Profile of Paavola very gravelly loamy sand. The fragipan is at a depth of about 38 inches.

Bs1—15 to 21 inches; dark reddish brown (5YR 3/4) extremely gravelly coarse sand; weak fine subangular blocky structure; very friable; many fine and medium roots; about 42 percent gravel and 20 percent cobbles; moderately acid; clear wavy boundary.

Bs2—21 to 31 inches; dark brown (7.5YR 4/4) extremely gravelly coarse sand; weak fine subangular blocky structure; friable; few fine and medium roots; about 62 percent gravel and 5 percent cobbles; common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation; moderately acid; abrupt smooth boundary.

2(E/B)x—31 to 38 inches; dark reddish gray (5YR 4/2) gravelly loamy fine sand (E); occupies about 60 percent of the horizon; surrounding peds of reddish brown (5YR 4/4) gravelly fine sandy loam (Bt); weak thin platy structure; very firm; common fine vesicular pores; few faint reddish brown (5YR 4/3) clay films on faces of peds; about 12 percent gravel and 5 percent cobbles; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation; strongly acid; clear wavy boundary.

2Btx—38 to 59 inches; reddish brown (5YR 4/4) gravelly sandy loam; few fine prominent strong brown (7.5YR 4/6) mottles; weak medium platy structure; very firm; few very fine vesicular pores; few faint reddish brown (5YR 4/3) clay films on faces of peds; about 20 percent gravel and 5 percent cobbles; strongly acid; clear wavy boundary.

2Cd—59 to 80 inches; reddish brown (5YR 4/4) very gravelly sandy loam; weak thin platy fragments parting to weak fine subangular blocky fragments; firm; about 43 percent gravel and 5 percent cobbles; moderately acid.

Paquin Series

The Paquin series consists of very deep, moderately well drained, sandy soils on outwash plains. These soils contain ortstein. Permeability is moderate or moderately rapid throughout the ortstein layers and rapid in the rest of the profile. Slopes range from 0 to 6 percent.

Typical pedon of Paquin sand, 0 to 6 percent slopes; 900 feet south and 75 feet east of the northwest corner of sec. 7, T. 44 N., R. 7 W., Hendricks Township, Mackinac County, Michigan; USGS Rexton, Michigan, topographic quadrangle:

Oe—0 to 2 inches; partially decomposed forest litter.

E—2 to 12 inches; brown (7.5YR 5/2) sand, pinkish gray (7.5YR 6/2) dry; weak medium subangular blocky structure; very friable; many fine to coarse roots; strongly acid; clear smooth boundary.

Bhs—12 to 14 inches; very dark brown (7.5YR 2/2) sand; weak fine subangular blocky structure; very friable; many fine to coarse roots; strongly acid; clear wavy boundary.

Bhsm—14 to 17 inches; very dark brown (7.5YR 2/2) sand; massive; very hard; ortstein occupies 100 percent of the horizon and is strongly cemented; ortstein occurs as a continuous layer with tongues that extend to a depth of 22 inches; few fine roots; strongly acid; clear irregular boundary.

Bsm—17 to 27 inches; dark brown (7.5YR 3/4) sand; massive; very hard; ortstein occupies 100 percent of the horizon and is strongly cemented; ortstein occurs as a continuous layer with tongues that extend to a depth of 31 inches; strongly acid; clear irregular boundary.

BC—27 to 34 inches; strong brown (7.5YR 4/6) sand; single grain; loose; common fine distinct strong brown (7.5YR 5/8) iron accumulations in the lower 2 inches; strongly acid; gradual wavy boundary.

C—34 to 80 inches; yellowish brown (10YR 5/4) sand; single grain; loose; common coarse distinct strong brown (7.5YR 5/6) iron accumulations; moderately acid.

Reade Series

The Reade series consists of moderately deep, moderately well drained, moderately permeable soils on ground moraines. These soils formed in a silty or loamy eolian mantle and in loamy till overlying limestone, dolomite, or dolomitic sandstone (fig. 16). Slopes range from 0 to 6 percent.

Typical pedon of Reade silt loam, in an area of Shoepac-Reade silt loams, 1 to 4 percent slopes; 85 feet north and 1,013 feet west of the southeast corner of sec. 9, T. 43 N., R. 24 W., Turin Township, Marquette County, Michigan; USGS Helena, Michigan, topographic quadrangle; lat. 46 degrees 07 minutes 48.33 seconds N. and long. 87 degrees 18 minutes 29.94 seconds W., NAD 27:

Oa—0 to 4 inches; well decomposed forest litter; weak fine granular structure; very friable; many very fine to coarse roots; extremely acid; abrupt smooth boundary.

E—4 to 7 inches; brown (7.5YR 5/2) silt loam, light gray (7.5YR 7/1) dry; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 5 percent cobbles and 1 percent gravel; extremely acid; clear wavy boundary.

Bhs—7 to 9 inches; dark brown (7.5YR 3/3) loam; weak fine subangular blocky structure; very friable; many very fine to coarse roots; about 5 percent cobbles and 3 percent gravel; very strongly acid; clear broken boundary.

Bs1—9 to 12 inches; dark brown (7.5YR 3/4) fine sandy loam; weak fine subangular blocky structure; very friable; common fine and few medium roots; about 5 percent cobbles and 7 percent gravel; very strongly acid; gradual wavy boundary.

Figure 16.—Profile of Reade silt loam. Limestone bedrock is at a depth of about 28 inches.

Bs2—12 to 15 inches; brown (7.5YR 4/4) fine sandy loam; moderate fine and coarse subangular blocky structure; firm; few very fine and fine roots in cracks 10 to 20 inches apart; common fine vesicular pores; common fine and medium faint dark brown (7.5YR 3/3) masses of iron accumulation; about 5 percent cobbles and 1 percent gravel; strongly acid; clear broken boundary.

B/E—15 to 20 inches; reddish brown (5YR 4/4) fine sandy loam (Bt); few faint dark reddish brown (5YR 3/3) clay films in root channels; occupies about 60 percent of the horizon; surrounded by reddish brown (5YR 5/3) loamy fine sand (E), pinkish gray (7.5YR 7/2) dry; moderate fine and medium subangular blocky structure; friable; few very fine and fine roots; common fine and medium prominent strong brown (7.5YR 4/6) masses of iron accumulation; about 5 percent cobbles and 9 percent gravel; slightly alkaline; gradual wavy boundary.

BC—20 to 28 inches; reddish brown (5YR 4/4) gravelly fine sandy loam; moderate fine and medium subangular blocky structure; friable; few very fine and fine roots; common fine and medium distinct yellowish red (5YR 4/6) masses of iron accumulation; about 5 percent cobbles and 12 percent gravel; moderately alkaline; abrupt smooth boundary.

2R—28 inches; grayish brown (2.5Y 5/2) dolomitic sandstone; few very fine and fine roots in a mat on top and in the upper 6 inches of crevices in the bedrock; many medium and coarse yellowish red (5YR 4/6) masses of iron accumulation on the surface of the bedrock.

Rhody Series

The Rhody series consists of moderately deep, poorly drained soils on eroded bedrock terraces in glacial drainage channels. These soils formed in silty eolian deposits overlying sandy outwash. Permeability is moderate in the silty part of the profile and rapid in the sandy part. Slopes range from 0 to 2 percent.

Typical pedon of Rhody mucky silt loam, in an area of Rhody-Towes complex, 0 to 4 percent slopes; 150 feet south and 3,000 feet west of the northeast corner of sec. 14, T. 49 N., R. 14 W., Burt Township, Alger County, Michigan; USGS Grand Sable Lake, Michigan, topographic quadrangle; lat. 46 degrees 39 minutes 00 seconds N. and long. 86 degrees 01 minute 05 seconds W., NAD 27:

A—0 to 10 inches; black (7.5YR 2.5/1) mucky silt loam, dark gray (7.5YR 4/1) dry; moderate fine granular structure; friable; many very fine to very coarse roots; moderately acid; clear smooth boundary.

A/E—10 to 19 inches; very dark gray (2.5Y 3/1) and light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) and pale yellow (2.5Y 7/4) dry; weak thick platy structure; firm; few very fine to medium roots; common fine prominent pinkish gray (7.5YR 6/2) iron depletions; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; gradual smooth boundary.

2C1—19 to 25 inches; olive brown (2.5Y 4/3) sand; single grain; loose; common medium distinct grayish brown (2.5Y 5/2) iron depletions; about 2 percent gravel; neutral; clear wavy boundary.

2C2—25 to 36 inches; olive gray (5Y 4/2) sand; single grain; loose; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; about 20 percent gravel; neutral; clear smooth boundary.

3Cr—36 to 41 inches; strong brown (7.5YR 5/6), weathered sandstone; massive; very firm; slightly alkaline; abrupt wavy boundary.

3R—41 inches; sandstone bedrock.

Rousseau Series

The Rousseau series consists of very deep, well drained, rapidly permeable soils on dunes. These soils formed in sandy glaciofluvial deposits. Slopes range from 0 to 70 percent.

Typical pedon of Rousseau fine sand, 0 to 6 percent slopes; 2,560 feet west and 200 feet south of the northeast corner of sec. 26, T. 43 N., R. 16 W., Hiawatha Township, Schoolcraft County, Michigan; USGS Hiawatha, Michigan, topographic quadrangle; lat. 46 degrees 05 minutes 57 seconds N. and long. 86 degrees 06 minutes 16 seconds W., NAD 27:

Oi—0 to 1 inch; partially decomposed forest litter.

E—1 to 4 inches; dark gray (10YR 4/1) fine sand, light brownish gray (10YR 6/2) dry; weak medium granular structure; very friable; many fine and common medium and coarse roots; strongly acid; clear irregular boundary.

Bs1—4 to 9 inches; brown (7.5YR 4/4) fine sand; weak medium subangular blocky structure; very friable; common fine and few medium and coarse roots; strongly acid; clear wavy boundary.

Bs2—9 to 20 inches; strong brown (7.5YR 4/6) fine sand; weak medium subangular blocky structure; very friable; few fine to coarse roots between columns of ortstein; columns of moderately cemented, strong brown (7.5YR 5/8), brown

(7.5YR 4/4), and pinkish gray (7.5YR 6/2) ortstein 3 to 10 inches wide extend into the BC horizon; ortstein columns are 3 to 20 inches apart; ortstein occupies 30 percent of the horizon; strongly acid; clear wavy boundary.

BC—20 to 33 inches; light yellowish brown (10YR 6/4) fine sand; weak fine granular structure; very friable; few fine roots between columns of ortstein; columns of moderately cemented, strong brown (7.5YR 5/8), brown (7.5YR 4/4), and pinkish gray (7.5YR 6/2) ortstein 3 to 14 inches wide extend into this horizon from the Bs2 horizon; ortstein columns are 3 to 10 inches apart; ortstein occupies 30 percent of horizon; strongly acid; clear wavy boundary.

C1—33 to 66 inches; light yellowish brown (10YR 6/4) fine sand; single grain; loose; few thin discontinuous strong brown (7.5YR 4/6) depositional bands $^{1}/_{16}$ to $^{1}/_{8}$ inch thick; about 1 percent fine gravel; moderately acid; clear wavy boundary.

C2—66 to 80 inches; yellowish brown (10YR 5/4) sand; single grain; loose; about 1 percent fine gravel; moderately acid.

Rubicon Series

The Rubicon series consists of very deep, excessively drained soils on outwash plains. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 0 to 35 percent.

Typical pedon of Rubicon sand, 0 to 6 percent slopes; 1,914 feet east and 1,320 feet south of the northwest corner of sec. 1, T. 42 N., R. 16 W., Hiawatha Township, Schoolcraft County, Michigan; USGS Hiawatha, Michigan, topographic quadrangle; lat. 46 degrees 04 minutes 02 seconds N. and long. 86 degrees 15 minutes 15 seconds W., NAD 27:

Oi—0 to 2 inches; undecomposed forest litter.

E—2 to 5 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/1) dry; weak medium granular structure; very friable; many fine and few medium roots; about 1 percent fine gravel; strongly acid; clear irregular boundary.

Bs1—5 to 10 inches; dark brown (7.5YR 3/4) sand; weak medium granular structure; very friable; common fine and few medium roots; about 1 percent fine gravel; strongly acid; clear wavy boundary.

Bs2—10 to 20 inches; strong brown (7.5YR 4/6) sand; weak medium granular structure; very friable; common fine and few medium roots; about 1 percent fine gravel; strongly acid; clear wavy boundary.

Bs3—20 to 30 inches; strong brown (7.5YR 5/6) sand; single grain; loose; few fine roots between ortstein columns; columns of weakly cemented, dark reddish brown (5YR 3/3) and yellowish brown (10YR 5/6) ortstein 1 to 3 inches wide extend into the BC horizon; ortstein columns are 5 to 20 inches apart; ortstein occupies 15 percent of the horizon; about 1 percent fine gravel; moderately acid; clear irregular boundary.

BC—30 to 38 inches; yellowish brown (10YR 5/6) sand; single grain; loose; few fine roots between ortstein columns; columns of weakly cemented, dark reddish brown (5YR 3/3) and yellowish brown (10YR 5/6) ortstein 1 to 3 inches wide extend into this horizon from the Bs3 horizon; ortstein columns are 5 to 30 inches apart; ortstein occupies 10 percent of the horizon; about 3 percent fine gravel; moderately acid; gradual wavy boundary.

C1—38 to 48 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few fine roots; about 3 percent fine gravel; slightly acid; gradual wavy boundary.

C2—48 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; about 3 percent fine gravel; slightly acid.

Ruse Series

The Ruse series consists of shallow, poorly drained soils in glacial drainage channels and on ground moraines. These soils formed in loamy till overlying limestone bedrock. Permeability is moderate. Slopes range from 0 to 6 percent.

Typical pedon of Ruse mucky loam; 2,000 feet east and 1,500 feet south of the northwest corner of sec. 19, T. 43 N., R. 10 W., Garfield Township, Mackinac County, Michigan; USGS Engadine, Michigan, topographic quadrangle; NAD 27:

A—0 to 7 inches; black (10YR 2/1) mucky loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many fine to coarse roots; neutral; abrupt smooth boundary.

Bg—7 to 11 inches; grayish brown (10YR 5/2) sandy loam; weak medium subangular blocky structure; friable; common fine to coarse roots; many fine faint gray (10YR 6/1) iron depletions throughout; slightly alkaline; abrupt smooth boundary.

Bw—11 to 15 inches; pale brown (10YR 6/3) sandy loam; weak thick platy structure; friable; few fine roots; common fine prominent yellowish brown (7.5YR 5/6) masses of iron accumulation and common fine distinct light brownish gray (2.5Y 6/2) masses of iron depletion throughout; slightly alkaline; abrupt smooth boundary.

2R—15 inches; fractured limestone bedrock.

Sauxhead Series

The Sauxhead series consists of shallow, moderately well drained, very rapidly permeable soils on bedrock-controlled moraines. These soils formed in sandy and channery glaciofluvial deposits overlying sandstone bedrock. Slopes range from 0 to 6 percent.

Typical pedon of Sauxhead sandy loam, in an area of Sauxhead-Jacobsville complex, 0 to 6 percent slopes, very stony; 1,200 feet west and 1,400 feet south of the northeast corner of sec. 10, T. 49 N., R. 26 W., Marquette Township, Marquette County, Michigan; USGS Buckroe, Michigan, topographic quadrangle; lat. 46 degrees 39 minutes 52 seconds N. and long. 87 degrees 39 minutes 05 seconds W., NAD 27:

Oa—0 to 1 inch; well decomposed forest litter; moderate fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

E—1 to 4 inches; dark reddish gray (5YR 4/2) sandy loam, pinkish gray (5YR 6/2) dry; weak medium subangular blocky structure; friable; many very fine to coarse roots; about 3 percent gravel and 3 percent channers; strongly acid; clear wavy boundary.

2Bw—4 to 14 inches; reddish brown (2.5YR 4/4) very channery loamy sand; weak medium subangular blocky structure; very friable; many very fine to coarse roots; strongly acid; about 50 percent sandstone channers and 5 percent gravel; clear wavy boundary.

3Cr—14 to 17 inches; dark reddish brown (2.5YR 3/4), highly weathered and fractured sandstone; reddish brown (2.5YR 4/4) loamy sand in root channels and cracks; few very fine and fine roots in cracks and crevices; very strongly acid; abrupt wavy boundary.

3R—17 inches; reddish brown (2.5YR 4/4) sandstone bedrock; common medium prominent light brownish gray (10YR 6/2) iron depletions on the surface of the bedrock; common medium prominent reddish yellow (7.5YR 6/8) masses of iron accumulation on the surface of the bedrock.

Shelldrake Series

The Shelldrake series consists of very deep, excessively drained soils on beach ridges and dunes. These soils formed in sandy beach and dune deposits. Permeability is rapid. Slopes range from 0 to 75 percent.

Typical pedon of Shelldrake sand, 0 to 8 percent slopes; 1,300 feet west and 1,400 feet north of the southeast corner of sec. 25, T. 48 N., R. 18 W., Munising Township, Alger County, Michigan; USGS Grand Portal Point, Michigan, topographic quadrangle; lat. 46 degrees 31 minutes 27 seconds N. and long. 86 degrees 29 minutes 38 seconds W., NAD 27:

Oe—0 to 1 inch; slightly decomposed forest litter.

Oa—1 to 3 inches; black (N 2.5/), well decomposed forest litter; weak very fine subangular blocky structure; very friable; many very fine to very coarse roots; extremely acid; clear smooth boundary.

A—3 to 4 inches; very dark grayish brown (10YR 2/2) sand, light brownish gray (10YR 6/2) dry; single grain; loose; many very fine to very coarse roots; about 40 percent clean sand grains; extremely acid; clear smooth boundary.

C—4 to 80 inches; very pale brown (10YR 7/3) sand; single grain; loose; common very fine and medium roots; few prominent dark yellowish brown (10YR 4/2) organic stains; extremely acid.

Shingleton Series

The Shingleton series consists of shallow, somewhat excessively drained soils on kame terraces overlying bedrock benches. These soils formed in sandy glaciofluvial deposits. Permeability is rapid. Slopes range from 1 to 70 percent.

Typical pedon of Shingleton loamy sand, in an area of Furlong-Shingleton loamy sands, 1 to 6 percent slopes; 1,320 feet north and 660 feet east of the southwest corner of sec. 22, T. 40 N., R. 17 W., Thompson Township, Schoolcraft County, Michigan; USGS Hiram Point, Michigan, topographic quadrangle; lat. 45 degrees 50 minutes 35.7 seconds N. and long. 86 degrees 23 minutes 39.2 seconds W., NAD 27:

A—0 to 1 inch; very dark gray (7.5YR 3/1) loamy sand, dark gray (7.5YR 4/1) dry; weak fine granular structure; very friable; common fine and medium roots; about 1 percent fine gravel; strongly acid; abrupt wavy boundary.

E—1 to 7 inches; brown (7.5YR 5/2) loamy sand, light gray (7.5YR 5/2) dry; weak medium subangular blocky structure; very friable; few fine and common roots; about 1 percent fine gravel; very strongly acid; clear irregular boundary.

Bhs—7 to 8 inches; dark reddish brown (5YR 3/2) loamy sand; weak medium subangular blocky structure; very friable; many fine, common medium, and few coarse roots; about 1 percent fine gravel; very strongly acid; abrupt broken boundary.

Bs—8 to 11 inches; dark reddish brown (5YR 3/4) loamy sand; weak medium subangular blocky structure; very friable; few fine to coarse roots; about 1 percent fine gravel; strongly acid; abrupt smooth boundary.

2R—11 inches; limestone bedrock.

Shoepac Series

The Shoepac series consists of very deep, moderately well drained soils on ground moraines. These soils formed in a silty or loamy eolian mantle overlying loamy till. Permeability is moderate in the solum and moderately slow in the substratum. Slopes range from 1 to 6 percent.

Typical pedon of Shoepac silt loam, in an area of Shoepac-Trenary silt loams, 1 to 6 percent slopes; 2,300 feet north and 2,100 feet east of the southwest corner of sec. 24, T. 44 N., R. 23 W., Turin Township, Marquette County, Michigan; USGS McFarland topographic quadrangle; lat. 46 degrees 11 minutes 39 seconds N. and long. 87 degrees 07 minutes 46 seconds W., NAD 27:

Oa—0 to 2 inches; well decomposed forest litter; very friable; many very fine to coarse roots; extremely acid; abrupt smooth boundary.

E—2 to 6 inches; reddish brown (5YR 5/3) silt loam, pinkish gray (7.5YR 7/2) dry; moderate fine subangular blocky structure; friable; many very fine to coarse roots; 2 percent cobbles and 1 percent gravel; very strongly acid; clear broken boundary.

Bs1—6 to 12 inches; brown (7.5YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; many very fine to coarse roots; 2 percent cobbles and 1 percent gravel; strongly acid; gradual wavy boundary.

Bs2—12 to 23 inches; strong brown (7.5YR 4/6) loamy sand; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine to coarse roots; 12 percent gravel and 2 percent cobbles; strongly acid; gradual wavy boundary.

2E/B—23 to 33 inches; reddish brown (5YR 5/3) loamy sand, pinkish gray (5YR 6/2) dry (E); occupies about 75 percent of the horizon; occurs as tongues extending into or completely surrounding isolated remnants of reddish brown (2.5YR 4/4) fine sandy loam (Bt); weak medium subangular blocky structure; firm; few very fine to medium roots; common medium distinct yellowish red (5YR 5/6) masses of iron accumulation; 3 percent gravel and 2 percent cobbles; strongly acid; gradual irregular boundary.

2Bt—33 to 53 inches; reddish brown (2.5YR 4/4) fine sandy loam; weak coarse subangular blocky structure parting to weak medium subangular blocky; firm; few very fine and fine roots; common distinct reddish brown (2.5YR 4/3) clay films on faces of peds and in root channels; 7 percent gravel and 2 percent cobbles; moderately acid; gradual wavy boundary.

2C—53 to 80 inches; reddish brown (2.5YR 4/4) gravelly fine sandy loam; massive with weakly expressed thin plates inherited from the parent material; friable; few very fine and fine roots; 22 percent gravel and 4 percent cobbles; slightly effervescent; slightly alkaline.

Skandia Series

The Skandia series consists of very poorly drained soils in depressions and drainageways on bedrock-controlled moraines. These soils formed in organic deposits overlying sandstone bedrock. Permeability is moderately slow to moderately rapid. Slopes are 0 to 1 percent.

Typical pedon of Skandia mucky peat; 330 feet south and 2,475 feet east of the northwest corner of sec. 20, T. 51 N., R. 26 W., Powell Township, Marquette County, Michigan; USGS Big Bay, Michigan, topographic quadrangle; lat. 46 degrees 48 minutes 18 seconds N. and long. 87 degrees 37 minutes 53 seconds W., NAD 27:

Oe—0 to 4 inches; mucky peat, dark grayish brown (10YR 4/2) broken face and pressed, very dark grayish brown (10YR 3/2) rubbed; about 80 percent fiber, 40 percent rubbed; weak medium platy structure; primarily sphagnum moss fibers; many very fine to coarse roots; extremely acid; clear smooth boundary.

Oa—4 to 26 inches; muck, black (10YR 2/1) broken face, rubbed, and pressed; about 10 percent fiber, 2 percent rubbed; weak medium subangular blocky structure; primarily herbaceous fibers; many very fine to coarse roots; extremely acid; abrupt smooth boundary.

2Cr—26 to 31 inches; dark reddish brown (2.5YR 3/4), weathered sandstone bedrock; massive; firm; extremely acid; clear wavy boundary.
2R—31 inches; dusky red (2.5YR 3/2) sandstone bedrock.

Skanee Series

The Skanee series consists of very deep, somewhat poorly drained soils on bedrock-controlled moraines. These soils are shallow to a fragipan. They formed in loamy till. Permeability is moderate in the upper part of the profile, very slow in the fragipan, and moderate below the fragipan. Slopes range from 0 to 6 percent.

Typical pedon of Skanee fine sandy loam, in an area of Munising-Skanee complex, 0 to 8 percent slopes; 2,700 feet west and 100 feet south of the northeast corner of sec. 34, T. 52 N., R. 36 W., Elm River Township, Houghton County, Michigan; USGS Nisula, Michigan, topographic quadrangle:

Oa—0 to 2 inches; well decomposed forest litter; many roots; abrupt smooth boundary.
E—2 to 8 inches; pinkish gray (5YR 6/2) fine sandy loam; moderate medium subangular blocky structure; friable; few roots; few fine faint reddish gray (5YR 5/2) iron depletions; about 3 percent gravel; very strongly acid; abrupt smooth boundary.
Bhs—8 to 14 inches; dark reddish brown (5YR 3/3) fine sandy loam; moderate medium subangular blocky structure; friable; few roots; few medium faint dark reddish brown (5YR 3/4) masses of iron accumulation; about 3 percent gravel; very strongly acid; abrupt smooth boundary.
(E/B)x—14 to 31 inches; reddish brown (5YR 5/3) fine sandy loam (E); occupies about 60 percent of the horizon and surrounds reddish brown (5YR 4/4) fine sandy loam (Bt); massive; very firm; common clay films on faces of peds; about 3 percent gravel; few fine distinct yellowish red (5YR 5/6) masses of iron accumulation; strongly acid; clear smooth boundary.
Bt—31 to 42 inches; reddish brown (2.5YR 4/4) sandy clay loam; massive; friable; common clay films on faces of peds; about 3 percent gravel; moderately acid; clear smooth boundary.
C—42 to 80 inches; reddish brown (2.5YR 4/4) sandy loam; massive; about 3 percent gravel; moderately acid.

Spot Series

The Spot series consists of very deep, poorly drained, sandy soils on outwash plains. These soils contain ortstein. Permeability is moderate or moderately rapid in the ortstein layer and rapid in the rest of the profile. Slopes range from 0 to 2 percent.

Typical pedon of Spot peat, in an area of Croswell-Spot complex, 0 to 6 percent slopes; 1,550 feet west and 600 feet north of the southeast corner of sec. 27, T. 44 N., R. 9 W., Garfield Township, Mackinac County, Michigan; USGS Gilchrist, Michigan, topographic quadrangle:

Oi—0 to 1 inch; very dark brown (10YR 2/2) peat.
Oa—1 to 2 inches; muck, black (N 2/) broken face and rubbed; moderate medium granular structure; friable; many fine to coarse roots; very strongly acid; abrupt smooth boundary.
E—2 to 8 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/1) dry; weak medium subangular blocky structure; friable; common fine and medium roots; common fine prominent strong brown (7.5YR 5/6) iron accumulations; very strongly acid; clear wavy boundary.

Bhsm—8 to 10 inches; dark reddish brown (5YR 3/3 and 3/2) sand; massive; very hard; ortstein occupies 90 percent of the horizon and is strongly cemented; ortstein occurs as a nearly continuous layer and as tongues that extend to a depth of 20 inches; common fine and medium roots; very strongly acid; clear irregular boundary.

Bs1—10 to 12 inches; dark brown (7.5YR 4/4) sand; weak fine subangular blocky structure; friable; ortstein occupies 70 percent of the horizon and is moderately cemented; dark brown (7.5YR 4/4) ortstein occurs as a nearly continuous layer with tongues extending to a depth of 22 inches; strongly acid; clear irregular boundary.

Bs2—12 to 18 inches; strong brown (7.5YR 4/6) sand; weak fine subangular blocky structure; friable; ortstein occupies 30 percent of the horizon and is weakly cemented; strong brown (7.5YR 4/4) ortstein occurs as tongues 2 to 6 inches wide extending to a depth of 25 inches; ortstein tongues are 16 to 30 inches apart; strongly acid; gradual wavy boundary.

C1—18 to 41 inches; light brown (7.5YR 6/4) sand; single grain; loose; strongly acid; gradual wavy boundary.

C2—41 to 80 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; moderately acid.

Steuben Series

The Steuben series consists of very deep, well drained soils on ground moraines and disintegration moraines. These soils are shallow or moderately deep to a fragipan. They formed in loamy till over sandy outwash. Permeability is moderate above the fragipan, slow in the fragipan, and rapid in the sandy substratum. Slopes range from 1 to 60 percent.

Typical pedon of Steuben fine sandy loam, in an area of Steuben-Blue Lake-Kalkaska complex, 6 to 15 percent slopes; 1,000 feet north and 200 feet east of the southwest corner of sec. 8, T. 45 N., R. 20 W., Au Train Township, Alger County, Michigan; USGS Forest Lake, Michigan, topographic quadrangle:

Oe—0 to 2 inches; moderately decomposed leaf litter; very friable; many roots; very strongly acid; abrupt smooth boundary.

E—2 to 8 inches; reddish gray (5YR 5/2) fine sandy loam; weak very thick platy structure; friable; very strongly acid; abrupt wavy boundary.

Bhs1—8 to 11 inches; dark reddish brown (5YR 2/2) fine sandy loam; weak medium and coarse subangular blocky structure; friable; very strongly acid; clear wavy boundary.

Bhs2—11 to 16 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak medium and coarse subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Bs—16 to 21 inches; dark brown (7.5YR 4/4) fine sandy loam; weak medium and coarse subangular blocky structure; friable; strongly acid; abrupt smooth boundary.

(B/E)x—21 to 40 inches; reddish brown (2.5YR 4/4) fine sandy loam (Bt); few thin clay films; occupies about 60 percent of horizon; surrounded by pinkish gray (5YR 6/2 and 7/2) loamy fine sand (E); weak very thick platy structure; vesicular; hard, brittle, and firm; strongly acid; abrupt smooth boundary.

2E and Bt—40 to 45 inches; light reddish brown (7.5YR 6/4) sand, pink (7.5YR 8/4) dry; single grain; loose; few lamellae of reddish brown (5YR 4/4) loamy sand (Bt); weak thin platy structure; very friable; lamellae are $^{1}/_{16}$ to $^{1}/_{4}$ inch thick; strongly acid; abrupt wavy boundary.

2C—45 to 80 inches; reddish brown (7.5YR 5/4) sand and coarse sand; single grain; loose; moderately acid.

Sturgeon Series

The Sturgeon series consists of very deep, somewhat poorly drained soils on flood plains. These soils formed in silty alluvium over sandy alluvium. Permeability is moderate in the silty part of the profile and rapid in the sandy part. Slopes range from 0 to 2 percent.

Typical pedon of Sturgeon silt loam, in an area of Evart-Sturgeon silt loams, 0 to 2 percent slopes, frequently flooded; 1,100 feet south and 40 feet east of the northwest corner of sec. 31, T. 44 N., R. 19 W., Au Train Township, Alger County, Michigan; USGS Tie Lake topographic quadrangle; lat. 46 degrees 10 minutes 12 seconds N. and long. 86 degrees 44 minutes 20 seconds W., NAD 27:

A—0 to 6 inches; dark brown (7.5YR 3/2) silt loam, brown (7.5YR 5/2) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; many very fine to medium and few coarse roots; moderately acid; clear wavy boundary.

Bw—6 to 16 inches; strong brown (7.5YR 5/8) silt loam; weak fine subangular blocky structure; friable; common very fine to medium roots; common fine vesicular pores; common prominent very dark gray (2.5Y 3/1) organic stains; common medium distinct brown (10YR 4/3) masses of iron accumulation; moderately acid; abrupt wavy boundary.

2C1—16 to 22 inches; yellowish brown (10YR 5/4) loamy fine sand; single grain; loose; common woody fragments 2 millimeters to 4 inches thick; thin discontinuous black (2.5Y 2.5/1) organic material; moderately acid; gradual wavy boundary.

2C2—22 to 80 inches; dark grayish brown (2.5Y 4/2) fine sand; single grain; loose; common woody fragments 2 millimeters to 4 inches thick; slightly acid.

Stutts Series

The Stutts series consists of very deep, somewhat excessively drained soils on outwash plains. These soils formed in a loamy eolian mantle overlying sandy outwash (fig. 17). Permeability is moderately rapid in the loamy part of the profile and rapid in the sandy lower part. Slopes range from 0 to 35 percent.

Typical pedon of Stutts sandy loam, in an area of Stutts-Kalkaska complex, 0 to 6 percent slopes; 1,400 feet east and 500 feet north of the southwest corner of sec. 35, T. 44 N., R. 19 W., Munising Township, Alger County, Michigan; USGS Tie Lake, Michigan, topographic quadrangle; lat. 46 degrees 09 minutes 37 seconds N. and long. 86 degrees 39 minutes 02 seconds W., NAD 27:

Oa—0 to 1 inch; well decomposed forest litter.

A—1 to 2 inches; very dark brown (7.5YR 2.5/2) sandy loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine to coarse roots; few very fine vesicular pores; very strongly acid; abrupt broken boundary.

E—2 to 7 inches; reddish gray (5YR 5/2) sandy loam, light gray (5YR 7/1) dry; moderate fine and very fine subangular blocky structure; friable; many very fine to coarse roots; few very fine vesicular pores; very strongly acid; abrupt wavy boundary.

Bhs—7 to 9 inches; dark reddish brown (5YR 3/2) sandy loam; moderate fine subangular blocky structure; friable; many very fine to coarse roots; few very fine vesicular pores; very strongly acid; clear wavy boundary.

Figure 17.—Profile of Stutts sandy loam. Depth is marked in inches.

Bs1—9 to 13 inches; dark brown (7.5YR 3/4) sandy loam; moderate fine subangular blocky structure; friable; many very fine to medium and few coarse roots; strongly acid; clear wavy boundary.

Bs2—13 to 19 inches; strong brown (7.5YR 4/6) sandy loam; weak fine and medium subangular blocky structure; friable; about 1 percent gravel; many fine and medium and few coarse roots; strongly acid; gradual wavy boundary.

2BC—19 to 33 inches; light brown (10YR 6/4) sand; single grain; loose; few very fine and fine roots; strongly acid; gradual wavy boundary.

2C—33 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; about 4 percent gravel; moderately acid.

Sultz Series

The Sultz series consists of very deep, well drained soils on outwash plains. These soils formed in sandy glaciofluvial deposits underlain by stratified loamy lacustrine material. Permeability is rapid in the sandy upper part of the profile and moderately slow to moderately rapid in the loamy lower part. Slopes range from 0 to 15 percent.

Typical pedon of Sultz fine sand, in an area of Rubicon-Sultz complex, 0 to 6 percent slopes; 1,300 feet west and 1,600 feet south of the northeast corner of sec. 18, T. 42 N., R. 17 W., Inwood Township, Schoolcraft County, Michigan; USGS Thunder Lake, Michigan, topographic quadrangle; lat. 46 degrees 02 minutes 12 seconds N. and long. 86 degrees 28 minutes 27 seconds W., NAD 27:

Oi—0 to 1 inch; slightly decomposed organic material.

A—1 to 2 inches; black (7.5YR 2.5/1) fine sand, dark gray (7.5YR/4/1) dry; weak very fine granular structure; very friable; many fine and common medium and coarse roots; extremely acid; abrupt wavy boundary.

E—2 to 6 inches; light brown (7.5YR 6/3) fine sand, pinkish gray (7.5YR 7/2) dry; weak medium subangular blocky structure; very friable; many fine and common medium and coarse roots; extremely acid; clear irregular boundary.

Bs1—6 to 11 inches; reddish brown (5YR 4/4) fine sand; weak medium subangular blocky structure; very friable; common fine and medium roots; about 18 percent of the horizon is moderately cemented ortstein; strongly acid; clear wavy boundary.

Bs2—11 to 18 inches; strong brown (7.5YR 5/6) fine sand; weak medium subangular blocky structure; very friable; few fine roots; about 18 percent of the horizon is moderately cemented ortstein; strongly acid; clear wavy boundary.

BC—18 to 43 inches; brown (7.5YR 5/4) fine sand; weak coarse subangular blocky structure; very friable; few fine roots; moderately acid; abrupt wavy boundary.

C1—43 to 51 inches; yellowish brown (10YR 5/4) fine sand; single grain; loose; moderately acid; abrupt wavy boundary.

2C2—51 to 58 inches; stratified reddish brown (5YR 5/4) silt loam and brown (7.5YR 5/4) fine sand; massive with moderately expressed thick platiness inherent from deposition; friable; common very fine and fine vesicular pores; strongly acid; abrupt wavy boundary.

2C3—58 to 80 inches; stratified reddish brown (5YR 5/4) silt loam and brown (7.5YR 5/4) loamy very fine sand; massive with weakly expressed thin platiness inherent from deposition; friable and very friable; strongly acid.

Summerville Series

The Summerville series consists of shallow, well drained soils on ground moraines. These soils formed in loamy till overlying limestone, dolomite, or dolomitic sandstone bedrock. Permeability is moderate. Slopes range from 1 to 45 percent.

Typical pedon of Summerville loam, in an area of Summerville-Rock outcrop complex, 1 to 15 percent slopes; 2,800 feet east and 400 feet south of the northwest corner of sec. 28, T. 42 N., R. 6 E., Drummond Township, Chippewa County, Michigan; USGS Meade Island, Michigan, topographic quadrangle:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; many very fine to medium roots; slightly acid; abrupt wavy boundary.

Bw1—3 to 9 inches; dark yellowish brown (10YR 4/4) very fine sandy loam; moderate fine angular blocky structure; very friable; common fine and medium roots; moderately acid; clear wavy boundary.

Bw2—9 to 13 inches; dark yellowish brown (10YR 4/6) very fine sandy loam; moderate fine angular blocky structure; very friable; common fine and medium roots; moderately acid; abrupt smooth boundary.

2R—13 inches; limestone bedrock.

Tawas Series

The Tawas series consists of very deep, very poorly drained soils in depressions and drainageways on outwash plains, ground moraines, and disintegration moraines. These soils formed in organic material 16 to 50 inches thick overlying sandy deposits. Permeability is moderately slow to moderately rapid in the organic material and rapid in the sandy material. Slopes range from 0 to 2 percent.

Typical pedon of Tawas mucky peat, in an area of Carbondale, Lupton, and Tawas soils; 1,500 feet north and 1,200 feet west of the southeast corner of sec. 4, T. 49 N., R. 13 W., Burt Township, Alger County, Michigan; USGS Grand Marais, Michigan, topographic quadrangle; lat. 46 degrees 39 minutes 52.29 seconds N. and long. 85 degrees 55 minutes 44.10 seconds W., NAD 27:

Oe—0 to 2 inches; dark brown (7.5YR 3/3) mucky peat; about 80 percent fiber, 35 percent rubbed; weak thin platy structure; very friable; many very fine to coarse roots; very strongly acid; clear smooth boundary.

Oa1—2 to 9 inches; black (10YR 2/1) muck; about 25 percent fiber, 5 percent rubbed; weak thick platy structure; very friable; few very fine to coarse roots; common woody fragments 2 millimeters to 10 inches thick throughout; strongly acid; gradual smooth boundary.

Oa2—9 to 23 inches; dark grayish brown (10YR 3/2) muck; about 15 percent fiber, 5 percent rubbed; massive; very friable; common woody fragments 2 millimeters to 10 inches thick throughout; strongly acid; abrupt smooth boundary.

2C—23 to 80 inches; brown (10YR 5/3) sand; single grain; loose; moderately acid.

Tokiahok Series

The Tokiahok series consists of very deep, well drained soils on bedrock-controlled moraines. These soils formed in sandy outwash over loamy till. They are moderately deep to a fragipan. Permeability is rapid in the sandy part of the profile, very slow in the fragipan, and moderate below the fragipan. Slopes range from 8 to 70 percent.

Typical pedon of Tokiahok loamy fine sand, in an area of Frohling-Tokiahok complex, 8 to 35 percent slopes, dissected, very stony; 250 feet south and 2,112 feet east of the northwest corner of sec. 31, T. 52 N., R. 29 W., Powell Township, Marquette County, Michigan; USGS McComb Corner, Michigan, topographic quadrangle; lat. 46 degrees 51 minutes 27 seconds N. and long. 88 degrees 22 minutes 22 seconds W., NAD 27:

Oa—0 to 2 inches; well decomposed forest litter; weak fine granular structure; very friable; many fine and common medium roots; very strongly acid; abrupt smooth boundary.

E—2 to 11 inches; reddish gray (5YR 5/2) loamy fine sand, pinkish gray (5YR 7/2) dry; weak fine subangular blocky structure; very friable; many fine and common medium roots; about 5 percent gravel; very strongly acid; clear wavy boundary.

Bhs—11 to 15 inches; dark reddish brown (5YR 3/3) loamy fine sand; weak fine subangular blocky structure; friable; many fine and common medium roots; discontinuous tongues of dark reddish brown (5YR 3/3) and reddish brown (5YR 4/4) moderately cemented ortstein occupy 20 percent (8 of 40 inches) of the horizon; tongues are 2 to 4 inches wide and 8 to 22 inches apart and extend into the Bs horizon; about 5 percent gravel and 1 percent cobbles; strongly acid; clear irregular boundary.

Bs—15 to 24 inches; brown (7.5YR 4/4) loamy fine sand; weak fine subangular blocky structure; very friable; few fine and medium roots; ortstein occupies 10

percent (4 of 40 inches) of the horizon and extends to a depth of 24 inches; about 5 percent gravel and 1 percent cobbles; strongly acid; gradual wavy boundary.

2Bx—24 to 30 inches; strong brown (7.5YR 4/6) fine sandy loam; moderate medium subangular blocky structure; very firm; very few fine and medium roots in cracks 10 to 20 inches apart; common very fine and fine vesicular pores; about 10 percent gravel and 2 percent cobbles; moderately acid; clear wavy boundary.

2(E/B)x—30 to 41 inches; reddish brown (5YR 5/3) loamy sand, pinkish gray (5YR 7/2) dry (E); occupies about 80 percent of the horizon; surrounding isolated remnants of reddish brown (2.5YR 4/4) sandy loam (Bt); weak medium platy structure parting to weak very fine subangular blocky; very firm; very few fine roots in cracks 10 to 20 inches apart; common very fine and fine vesicular pores; about 5 percent gravel and 2 percent cobbles; moderately acid; gradual wavy boundary.

2(B/E)x—41 to 49 inches; reddish brown (2.5YR 4/4) sandy loam (Bt); few distinct dusky red (2.5YR 3/2) clay films on faces of peds; occupies about 80 percent of the horizon; surrounding peds of reddish brown (5YR 5/3) loamy sand, pinkish gray (5YR 7/2) dry (E); weak medium platy structure parting to weak very fine subangular blocky; very firm; very few fine roots in cracks 10 to 20 inches apart; common very fine and fine vesicular pores; about 5 percent gravel and 2 percent cobbles; slightly acid; clear smooth boundary.

2Btx—49 to 59 inches; dark reddish brown (2.5YR 3/4) sandy loam; weak medium platy structure parting to weak very fine subangular blocky; very firm; common very fine and fine vesicular pores; common distinct dusky red (2.5YR 3/2) clay films on faces of peds; about 5 percent gravel and 2 percent cobbles; slightly acid; gradual wavy boundary.

2BC—59 to 66 inches; reddish brown (2.5YR 4/4) sandy loam; weak fine subangular blocky structure; friable; about 5 percent gravel and 2 percent cobbles; slightly acid; gradual wavy boundary.

2C—66 to 80 inches; reddish brown (2.5YR 4/4) sandy loam; massive; friable; about 10 percent gravel and 2 percent cobbles; slightly acid.

Towes Series

The Towes series consists of moderately deep, somewhat poorly drained soils on eroded bedrock terraces in glacial drainage channels. These soils formed in silty eolian deposits overlying sandy outwash. Permeability is moderate in the silty mantle and rapid in the sandy part of the profile. Slopes range from 0 to 4 percent.

Typical pedon of Towes silt loam, in an area of Rhody-Towes complex, 0 to 4 percent slopes; 150 feet south and 3,000 feet west of the northeast corner of sec. 14, T. 49 N., R. 14 W., Burt Township, Alger County, Michigan; USGS Grand Sable Lake, Michigan, topographic quadrangle; lat. 46 degrees 38 minutes 59 seconds N. and long. 86 degrees 01 minute 17 seconds W., NAD 27:

A1—0 to 9 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine to very coarse roots; strongly acid; clear smooth boundary.

A2—9 to 19 inches; dark gray (10YR 4/1) silt loam, grayish brown (10YR 5/2) dry; weak thick platy structure grading to weak medium subangular blocky; friable to firm; common very fine to medium roots; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; clear smooth boundary.

2Bw—19 to 22 inches; dark yellowish brown (10YR 4/4) sand; single grain; loose; about 1 percent gravel; slightly acid; clear wavy boundary.

2C—22 to 26 inches; pale brown (10YR 6/3) sand; single grain; loose; common fine prominent dark brown (7.5YR 3/3) iron and manganese concretions and nodules; about 1 percent gravel; slightly acid; clear wavy boundary.

3Cr—26 to 37 inches; very pale brown (10YR 7/3) and yellowish brown (10YR 5/6), weathered sandstone; massive; very firm; very strongly acid; abrupt wavy boundary.

3R—37 inches; very pale brown (10YR 7/3) and yellowish brown (10YR 5/6) sandstone bedrock.

Traunik Series

The Traunik series consists of very deep, well drained soils on outwash plains and recessional moraines. These soils formed in a loamy mantle over gravelly and sandy outwash deposits. Permeability is moderate in the loamy mantle and very rapid in the sandy part of the profile. Slopes range from 1 to 35 percent.

Typical pedon of Traunik gravelly fine sandy loam, 1 to 6 percent slopes; 850 feet north and 2,400 feet west of the southeast corner of sec. 24, T. 45 N., R. 23 W., Skandia Township, Marquette County, Michigan; USGS Ladoga, Michigan, topographic quadrangle; lat. 46 degrees 16 minutes 38.98 seconds N. and long. 87 degrees 07 minutes 38.27 seconds W., NAD 27:

Oa—0 to 1 inch; well decomposed forest litter; strongly acid; abrupt smooth boundary.

E—1 to 4 inches; brown (7.5YR 4/2) gravelly fine sandy loam, pinkish gray (7.5YR 6/2) dry; weak fine subangular blocky structure; friable; many very fine to coarse roots; about 15 percent gravel and 10 percent cobbles; strongly acid; clear wavy boundary.

Bs1—4 to 11 inches; dark brown (7.5YR 3/4) gravelly fine sandy loam; weak fine subangular blocky structure; friable; many very fine to coarse roots; about 15 percent gravel and 10 percent cobbles; strongly acid; gradual wavy boundary.

2Bs2—11 to 24 inches; brown (7.5YR 4/4) very gravelly sand; weak very fine subangular blocky structure; loose; common very fine to coarse roots; 41 percent gravel and 16 percent cobbles; moderately acid; gradual wavy boundary.

2BC—24 to 31 inches; dark yellowish brown (10YR 4/4) very gravelly sand; single grain; loose; common very fine to coarse roots; 45 percent gravel and 13 percent cobbles; slightly acid; gradual wavy boundary.

2C—31 to 80 inches; pale brown (10YR 6/3) very gravelly sand; single grain; loose; few very fine to medium roots; 45 percent gravel and 13 percent cobbles; slightly effervescent; slightly alkaline.

Trenary Series

The Trenary series consists of very deep, well drained soils on ground moraines and recessional moraines. These soils formed in a silty or loamy eolian mantle over loamy till. Permeability is moderate. Slopes range from 1 to 35 percent.

Typical pedon of Trenary fine sandy loam, 2 to 6 percent slopes; 190 feet south and 1,700 feet west of the northeast corner of sec. 4, T. 43 N., R. 21 W., Masonville Township, Delta County, Michigan; USGS Trenary, Michigan, topographic quadrangle:

A—0 to 2 inches; very dark gray (5YR 3/1) fine sandy loam; weak medium granular structure; friable; about 2 percent gravel; moderately acid; abrupt wavy boundary.

E—2 to 6 inches; brown (7.5YR 5/2) fine sandy loam, pinkish gray (7.5YR 6/2) dry; weak fine subangular blocky structure; friable; about 2 percent gravel; moderately acid; abrupt wavy boundary.

Bhs—6 to 12 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak medium subangular blocky structure; friable; about 3 percent gravel; strongly acid; clear wavy boundary.

Bs—12 to 17 inches; reddish brown (5YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; about 3 percent gravel; strongly acid; abrupt irregular boundary.

E´—17 to 26 inches; reddish brown (5YR 5/3) sandy loam; weak thick platy structure; firm in place, friable where disturbed; few fine vesicular pores; about 2 percent gravel and 2 percent cobbles; strongly acid; abrupt irregular boundary.

Bt—26 to 37 inches; dark reddish brown (2.5YR 3/4) sandy clay loam; moderate coarse subangular blocky structure; firm; continuous clay flows in pores, on some faces of peds, and in root channels; about 2 percent gravel and 2 percent cobbles; moderately acid; abrupt wavy boundary.

C1—37 to 48 inches; reddish brown (2.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; about 2 percent gravel and 3 percent cobbles; neutral; clear wavy boundary.

C2—48 to 80 inches; reddish brown (2.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; about 2 percent gravel and 3 percent cobbles; slightly effervescent; moderately alkaline.

Trout Bay Series

The Trout Bay series consists of moderately deep, very poorly drained soils on seepy side slopes of sandstone benches and in depressions and drainageways on bedrock-controlled moraines. These soils formed in organic deposits overlying sandstone bedrock (fig. 18). Permeability is moderately slow to moderately rapid in the organic part of the profile, moderately slow in the Cr horizon, and extremely slow in the bedrock. Slopes range from 0 to 25 percent.

Typical pedon of Trout Bay muck, in an area of Deerton-Tokiahok-Trout Bay complex, 8 to 35 percent slopes, dissected; 2,128 feet east and 2,522 feet north of the southwest corner of sec. 25, T. 47 N., R. 20 W., Au Train Township, Alger County, Michigan; USGS Au Train, Michigan, topographic quadrangle; lat. 46 degrees 26 minutes 31 seconds N. and long. 80 degrees 45 minutes 12 seconds W., NAD 27:

Oa1—0 to 7 inches; muck, black (10YR 2/1) broken face and rubbed; about 20 percent fiber, less than 5 percent rubbed; moderate medium granular structure; slightly sticky; strongly acid; clear wavy boundary.

Oa2—7 to 19 inches; muck, black (10YR 2/1) broken face and rubbed; about 15 percent fiber, less than 5 percent rubbed; weak coarse subangular blocky structure parting to weak medium granular; slightly sticky; about 5 percent sand grains; moderately acid; abrupt smooth boundary.

2Cr—19 to 34 inches; olive yellow (2.5Y 6/6) and light grayish brown (2.5Y 6/2), weathered sandstone; massive; firm; slightly acid; abrupt smooth boundary.

2R—34 inches; sandstone bedrock.

Voelker Series

The Voelker series consists of very deep, well drained soils in ice-margin complexes. These soils are shallow to ortstein. They formed in sandy glaciofluvial deposits and in the underlying loamy glaciolacustrine sediments. Permeability is rapid in the sandy part of the profile, moderate or moderately rapid in the ortstein, and moderately slow in the loamy part. Slopes range from 1 to 70 percent.

Typical pedon of Voelker fine sand, in an area of Garlic-Alcona-Voelker complex, 8 to 35 percent slopes, dissected; 330 feet west and 1,166 feet south of the northeast

Figure 18.—Pprofile of Trout Bay muck. Sandstone bedrock is at a depth of about 40 centimeters.

corner of sec. 31, T. 50 N., R. 26 W., Powell Township, Marquette County, Michigan; USGS Buckroe, Michigan, topographic quadrangle; lat. 46 degrees 41 minutes 24 seconds N. and long. 87 degrees 35 minutes 40 seconds W., NAD 27:

Oa—0 to 1 inch; highly decomposed forest litter; moderate fine granular structure; very friable; abrupt smooth boundary.

A—1 to 5 inches; dark gray (7.5YR 4/1) fine sand, gray (7.5YR 6/1) dry; weak very fine granular structure; very friable; many very fine to coarse roots; very strongly acid; clear wavy boundary.

E—5 to 11 inches; reddish gray (5YR 5/2) fine sand, pinkish gray (5YR 7/2) dry; weak very fine subangular blocky structure; very friable; many very fine to coarse roots; very strongly acid; abrupt irregular boundary.

Bhs—11 to 15 inches; dark reddish brown (5YR 3/2) fine sand; massive; very hard; ortstein occupies 70 percent of the horizon and is strongly cemented with tongues extending to a depth of 25 inches; many very fine to coarse roots; very strongly acid; clear irregular boundary.

Bsm1—15 to 23 inches; dark reddish brown (5YR 3/4) and reddish brown (5YR 4/4) fine sand; massive; very hard; ortstein occupies 100 percent of the horizon and is strongly cemented; ortstein occurs as a nearly continuous layer; few very fine and fine roots in cracks; strongly acid; clear wavy boundary.

Bsm2—23 to 31 inches; brown (7.5YR 5/4) fine sand; massive; very hard; ortstein occupies 90 percent of the horizon and is moderately cemented; few very fine and fine roots; strongly acid; gradual wavy boundary.

2E/B—31 to 39 inches; brown (7.5YR 5/3) loamy very fine sand, gray (7.5YR 6/2) dry (E); occupies 80 percent of the horizon; surrounding peds of reddish brown (5YR

4/4) very fine sandy loam (Bt); weak thin platy structure; firm; few very fine and fine roots; strongly acid; gradual wavy boundary.

2C1—39 to 54 inches; stratified reddish brown (5YR 5/4) loamy very fine sand and reddish brown (5YR 4/4) very fine sandy loam and silt loam; massive with weakly expressed thin platiness inherent from the parent material; firm; common fine vesicular pores; few very fine and fine roots; strongly acid; gradual wavy boundary.

2C2—54 to 80 inches; brown (7.5YR 5/3), stratified sand, very fine sand, and silt loam; massive; friable to loose; few very fine and fine roots; strongly acid.

Waiska Series

The Waiska series consists of very deep, excessively drained soils on kame terraces on bedrock-controlled moraines and in glacial drainage channels. These soils formed in gravelly and sandy outwash. Permeability is very rapid. Slopes range from 0 to 70 percent.

Typical pedon of Waiska sand, 0 to 8 percent slopes; 2,475 feet south and 165 feet east of the northwest corner of sec. 33, T. 51 N., R. 31 W., Arvon Township, Baraga County, Michigan; USGS Keweenaw Bay SE, Michigan, topographic quadrangle:

Oe—0 to 1 inch; moderately decomposed forest litter; weak fine granular structure; very friable; many roots; strongly acid; abrupt smooth boundary.

E—1 to 4 inches; brown (7.5YR 4/2) sand; weak fine granular structure; very friable; many roots; about 5 percent gravel; strongly acid; abrupt smooth boundary.

Bhs—4 to 8 inches; dark reddish brown (5YR 3/3) gravelly sand; weak fine subangular blocky structure parting to single grain; very friable to loose; many roots; about 15 percent gravel; strongly acid; abrupt smooth boundary.

Bs1—8 to 11 inches; brown (7.5YR 4/4) gravelly sand; single grain; loose; common roots; about 20 percent gravel; strongly acid; clear smooth boundary.

Bs2—11 to 18 inches; strong brown (7.5YR 4/6) very gravelly sand; single grain; loose; few roots; about 50 percent gravel; strongly acid; gradual smooth boundary.

BC—18 to 35 inches; strong brown (7.5YR 5/6) very gravelly sand; single grain; loose; few roots; about 50 percent gravel; strongly acid; clear smooth boundary.

C—35 to 80 inches; yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) very gravelly sand with strata of coarse sand; single grain; loose; about 50 percent gravel; strongly acid.

Wallace Series

The Wallace series consists of very deep, well drained, sandy soils on beach ridges. These soils contain ortstein. Permeability is moderate or moderately rapid in the ortstein layer and rapid in the rest of the profile. Slopes range from 0 to 70 percent.

Typical pedon of Wallace sand, 0 to 6 percent slopes; 100 feet west and 950 feet north of the southeast corner of sec. 12, T. 43 N., R. 9 W., Garfield Township, Mackinac County, Michigan; USGS Garnet, Michigan, topographic quadrangle:

Oe—0 to 2 inches; partially decomposed leaf litter.

E—2 to 10 inches; light brownish gray (10YR 6/2) sand, light gray (10YR 7/2) dry; weak medium subangular blocky structure; very friable; many fine to coarse roots; very strongly acid; abrupt wavy boundary.

Bhs—10 to 11 inches; dark reddish brown (5YR 3/2) sand; weak fine subangular blocky structure; very friable; many fine to coarse roots; very strongly acid; abrupt irregular boundary.

Bhsm—11 to 21 inches; dark brown (7.5YR 3/3) sand; massive; very hard; ortstein occupies 95 percent of the horizon and is strongly cemented; ortstein occurs as a nearly continuous layer and as tongues that extend to a depth of 52 inches; few fine and medium roots; strongly acid; clear irregular boundary.

Bsm—21 to 26 inches; dark brown (7.5YR 4/4) sand; massive; hard; ortstein occupies 95 percent of the horizon and is moderately cemented; ortstein occurs as a nearly continuous layer and as tongues that extend to a depth of 55 inches; few fine and medium roots; strongly acid; clear irregular boundary.

BC—26 to 59 inches; brownish yellow (10YR 6/6) sand; single grain; loose; few fine roots; moderately acid; gradual wavy boundary.

C—59 to 80 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; moderately acid.

Whitewash Series

The Whitewash series consists of very deep, well drained soils on inactive flood plains. These soils formed in sandy alluvium. Permeability is rapid. Slopes range from 0 to 6 percent.

Typical pedon of Whitewash sand; 500 feet south of the northwest corner of sec. 7, T. 49 N., R. 12 W., McMillan Township, Luce County, Michigan; USGS Grand Marais NE, Michigan, topographic quadrangle; lat. 46 degrees 39 minutes 47 seconds N. and long. 85 degrees 51 minutes 52 seconds W., NAD 83:

Oe—0 to 3 inches; black (10YR 2/1), moderately decomposed plant material; weak medium granular structure; very friable; many fine to coarse roots; moderately acid; abrupt smooth boundary.

C—3 to 7 inches; yellowish brown (10YR 5/4) sand; single grain; loose; common fine to coarse roots; slightly acid; abrupt smooth boundary.

Ab—7 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium subangular blocky structure; friable; many fine to coarse roots; extremely acid; abrupt wavy boundary.

C´1—9 to 16 inches; dark grayish brown (10YR 4/2) loamy fine sand; massive; firm; few fine to coarse roots; very strongly acid; abrupt wavy boundary.

C´2—16 to 80 inches; 80 percent yellowish brown (10YR 5/4) sand; single grain; loose; 20 percent strata of brown (10YR 4/3) fine sandy loam 2 inches thick; strongly acid.

Wurtsmith Series

The Wurtsmith series consists of very deep, moderately well drained soils on beach ridges. These soils formed in sandy beach deposits. Permeability is rapid. Slopes range from 1 to 8 percent.

Typical pedon of Wurtsmith sand, in an area of Wurtsmith-Deford complex, 0 to 6 percent slopes; 3,100 feet east and 1,500 feet south of the northwest corner of sec. 19, T. 47 N., R. 19 W., Au Train Township, Alger County, Michigan; USGS Munising, Michigan, topographic quadrangle; lat. 46 degrees 27 minutes 32 seconds N. and long. 86 degrees 43 minutes 38 seconds W., NAD 27:

Oa—0 to 4 inches; well decomposed forest litter.

A—4 to 5 inches; very dark grayish brown (10YR 3/2) sand, light brownish gray (10YR 6/2) dry; single grain; loose; many very fine to very coarse roots; about 1 percent gravel; very strongly acid; clear wavy boundary.

Bw1—5 to 29 inches; yellowish brown (10YR 5/4) sand; single grain; loose; many very fine to very coarse roots; about 1 percent gravel; very strongly acid; gradual wavy boundary.

Bw2—29 to 42 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few very fine to medium roots; about 1 percent gravel; moderately acid; gradual wavy boundary.

C—42 to 80 inches; very pale brown (10YR 7/4) sand; single grain; loose; few very fine to medium roots; about 1 percent gravel; neutral.

Yalmer Series

The Yalmer series consists of very deep, moderately well drained soils on bedrock-controlled moraines. These soils are moderately deep to a fragipan. They formed in sandy outwash over loamy till. Permeability is rapid in the sandy part of the profile, very slow in the fragipan, and moderate below the fragipan. Slopes range from 1 to 18 percent.

Typical pedon of Yalmer loamy sand, in an area of Munising-Yalmer loamy sands, 1 to 8 percent slopes; 1,300 feet north and 100 feet west of the center of sec. 32, T. 50 N., R. 33 W., L'Anse Township, Baraga County, Michigan; USGS Alberta, Michigan, topographic quadrangle:

Oe—0 to 1 inch; partially decomposed forest litter; many roots; abrupt smooth boundary.

A—1 to 3 inches; black (5YR 2/1) loamy sand, dark gray (5YR 4/1) dry; weak fine granular structure; very friable; many roots; about 3 percent gravel; extremely acid; abrupt smooth boundary.

E—3 to 8 inches; reddish gray (5YR 5/2) loamy sand; weak medium and fine subangular blocky structure; very friable; common roots; about 3 percent gravel; extremely acid; abrupt wavy boundary.

Bhs—8 to 11 inches; dark reddish brown (5YR 3/3) sand; weak fine subangular blocky structure; very friable; many roots; about 40 percent ortstein; about 3 percent gravel; extremely acid; abrupt irregular boundary.

Bs1—11 to 15 inches; yellowish red (5YR 4/6) fine sand; weak fine subangular blocky structure; very friable; few roots; about 40 percent ortstein; about 3 percent gravel; extremely acid; clear wavy boundary.

Bs2—15 to 24 inches; yellowish red (5YR 5/6) fine sand; weak fine subangular blocky structure; very friable; few roots; about 6 percent gravel; very strongly acid; abrupt wavy boundary.

2(E/B)x—24 to 29 inches; reddish gray (5YR 5/2) loamy fine sand (E); occupies about 70 percent of the horizon; surrounding peds of dark reddish brown (2.5YR 3/4) fine sandy loam (Bt); weak medium subangular blocky structure; very firm; many pores; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; about 10 percent gravel; very strongly acid; clear broken boundary.

2(B/E)x—29 to 40 inches; dark reddish brown (2.5YR 3/4) fine sandy loam (Bt); common distinct dusky red (2.5YR 3/2) clay films in pores and on faces of peds; occupies about 65 percent of the horizon; surrounded by reddish gray (5YR 5/2) loamy fine sand (E); weak very coarse subangular blocky structure; very firm; many vesicular pores; about 10 percent gravel; very strongly acid; gradual wavy boundary.

2Bt—40 to 66 inches; reddish brown (2.5YR 4/4) fine sandy loam; moderate medium platy structure parting to weak medium subangular blocky; firm; many pores; dark red (2.5YR 3/6) clay flows on faces of peds; about 14 percent gravel; strongly acid; clear wavy boundary.

2C—66 to 80 inches; reddish brown (2.5YR 4/4) fine sandy loam; massive; friable; about 14 percent gravel; moderately acid.

Yellowdog Series

The Yellowdog series consists of moderately deep, excessively drained soils on bedrock benches. These soils formed in sandy and channery glaciofluvial deposits overlying sandstone bedrock. Permeability is very rapid. Slopes range from 0 to 6 percent.

Typical pedon of Yellowdog very channery sand, 0 to 6 percent slopes, stony; 1,740 feet south and 2,040 feet west of the northeast corner of sec. 20, T. 51 N., R. 26 W., Powell Township, Marquette County, Michigan; USGS Big Bay, Michigan, topographic quadrangle; lat. 46 degrees 48 minutes 13 seconds N. and long. 87 degrees 37 minutes 50 seconds W., NAD 27:

Oa—0 to 2 inches; highly decomposed leaf litter; moderate very fine granular structure; very friable; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

Bw1—2 to 22 inches; reddish brown (5YR 4/4) very channery sand; weak very fine subangular blocky structure; very friable; many very fine to coarse roots; about 55 percent sandstone channers; very strongly acid; gradual wavy boundary.

Bw2—22 to 32 inches; reddish brown (5YR 5/4) very channery sand; weak very fine subangular blocky structure; very friable; common very fine to medium roots; about 55 percent sandstone channers; moderately acid; abrupt wavy boundary.

2R—32 inches; dusky red (2.5YR 3/2) sandstone bedrock; hard bedrock contains fractures 2 to 10 millimeters thick that range from 1 to 5 feet apart; common very fine roots in crevices of bedrock.

Zeba Series

The Zeba series consists of moderately deep, somewhat poorly drained soils on bedrock-controlled moraines. These soils formed in loamy till overlying sandstone bedrock. Permeability is moderate. Slopes range from 0 to 3 percent.

Typical pedon of Zeba sandy loam, 0 to 3 percent slopes; 1,450 feet north and 150 feet east of the southwest corner of sec. 31, T. 52 N., R. 32 W., Arvon Township, Baraga County, Michigan; USGS Aura, Michigan, topographic quadrangle:

A—0 to 2 inches; very dark gray (10YR 3/1) sandy loam; moderate medium granular structure; friable; many roots; very strongly acid; abrupt smooth boundary.

E—2 to 5 inches; grayish brown (10YR 5/2) sandy loam; moderate medium subangular blocky structure; friable; common roots; few fine distinct dark yellowish brown (10YR 4/6) and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; clear smooth boundary.

Bs—5 to 13 inches; dark brown (7.5YR 4/4) sandy loam; moderate medium subangular blocky structure; friable; common roots; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation; about 5 percent gravel; moderately acid; clear smooth boundary.

E´—13 to 21 inches; reddish brown (5YR 5/3) sandy loam; moderate medium subangular blocky structure; friable; few roots; many medium prominent yellowish

red (5YR 5/8) masses of iron accumulation; about 5 percent gravel; moderately acid; clear smooth boundary.

B/E—21 to 33 inches; reddish brown (2.5YR 4/4) sandy loam (Bt); common pores; few clay flows on faces of peds; occupies about 85 percent of the horizon; surrounded by reddish gray (5YR 5/2) loamy sand (E); weak coarse subangular blocky structure; firm; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; about 5 percent gravel; strongly acid; abrupt smooth boundary.

2R—33 inches; reddish brown (2.5YR 4/4) sandstone.

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in the survey area. It also describes the processes of soil formation.

Factors of Soil Formation

Soil forms through the interaction of five major factors. These are the physical, chemical, and mineral composition of the parent material; the climate under which the soil material has accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or topography; and the length of time that the processes of soil formation have acted on the parent material (Jenny, 1941).

Climate and plant and animal life are the active forces of soil formation. They slowly change the parent material into a natural body of soil that has genetically related layers, called horizons. The effects of climate and plant and animal life are conditioned by relief. The nature of the parent material affects the kind of soil profile that is formed and, in extreme cases, determines it almost entirely. Finally, time changes the parent material into a soil. Generally, a long time is required for the formation of distinct horizons.

The factors of soil formation are so closely interrelated in their effects on the soil that few generalizations can be made about the effect of any one factor unless conditions are specified for the other four. Many of the processes of soil formation are unknown.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. The parent material of the soils in Alger County was deposited by glaciers or by meltwater from the glaciers. Some of this material was subsequently reworked by water and wind. The glaciers covered the county about 10,000 years ago. Parent material determines the chemical and mineralogical composition of the soil. Although the soils in the county have parent material of common glacial origin, the properties of the parent material vary greatly, sometimes within a small area, depending on how the materials were deposited. The dominant parent materials in Alger County were deposited as till, outwash, eolian material, lake sediment, alluvium, or organic material.

Till is material that was deposited directly by glaciers with a minimum of water action. It consists of a mixture of particles of different sizes. The small pebbles in till have sharp corners, indicating that they have not been worn by water. Greylock and Dillingham soils are examples of soils that formed in till on ground moraines and disintegration moraines.

Outwash material was deposited by running water from melting glaciers. The size of the particles that make up outwash material depends on the speed of the water that carried them. When the water slows down, the coarser particles are deposited. The finer particles, such as very fine sand, silt, and clay, are carried by slowly moving water. Outwash deposits generally consist of layers of particles of similar size, such

as sand, coarse sand, and gravel. Traunik soils are examples of soils that formed in outwash material.

Eolian material was redeposited by wind after initial deposition by glaciers or meltwater from the glaciers. These eolian deposits are typically very fine sandy loam or silt loam and occur as a layer several inches to 1 foot thick over till or outwash material. Stutts and Grand Sable soils are examples of soils that formed in eolian material over outwash. Because eolian deposits in Alger County are thin, there has been some modification or mixing of the eolian material with the underlying material. Freeze-thaw cycles and the uprooting of trees by the wind are two possible causes of this modification.

Lake sediment is material that settled from still or slowly moving, deep lake water and from shallow, high-energy water near shorelines. Lake sediments are well sorted, and the size of the particles depends on the speed of the water that suspended them. Deer Park soils are examples of sandy soils that formed in parent material deposited in sandbars on a shallow lake bottom. Mongo soils are examples of fine textured soils that formed in parent material deposited on a deep lake bottom.

Alluvium is material that has been deposited by floodwater of present streams in recent time. The texture of this material depends on the speed of the water that deposited it. Evart soils are examples of soils that formed in alluvium.

Organic material is made up of plant remains. After the glaciers receded from the area, water was left standing in depressions on outwash plains, flood plains, moraines, and till plains. The grasses and sedges and other water-tolerant plants that grew around the edges of these depressions did not decompose but accumulated. Later, water-tolerant trees grew in these areas. As these trees died, their residue became part of the organic accumulation. Consequently, the depressions were eventually filled with organic material and developed into areas of muck. Carbondale soils are examples of soils that formed in organic material.

Plant and Animal Life

Green plants have been the principal organisms influencing the soils in Alger County. Bacteria, fungi, earthworms, and humans also have been important. The chief contribution of plant and animal life is the addition of organic matter and nitrogen to the soil. The kind of organic material on and in the soil depends on the kinds of plants that grew on the soil. The residue of these plants accumulates on the surface of the soil. It decays and eventually becomes organic matter. Plant roots provide channels for the downward movement of water through the soil and add organic matter to the soil as they decay. Bacteria in the soil help to break down the organic matter into a form that can be used by plants. Carbondale and Tawas soils, which formed under wet conditions, contain a considerable amount of organic matter.

The native vegetation in Alger County was a mixture of coniferous and deciduous forest. Differences in natural soil drainage and changes in parent material affect the composition of forests.

In general, the well drained upland soils, such as Blue Lake and Garlic soils, were covered with sugar maple and white pine. The excessively drained Rubicon soils were covered with red pine, white pine, and jack pine. The very poorly drained soils in the county were covered with cedar, black spruce, and tamarack.

Climate

Climate is important in the formation of soils. It determines the kind of plant and animal life on and in the soil and determines the amount of water available for the weathering of minerals and the transporting of soil materials. Through its influence on

soil temperature, climate determines the rate of chemical reactions in the soil. These climatic influences generally affect areas larger than a county.

The climate in Alger County is cool and humid. Presumably, it is similar to the climate under which the soils formed. The soils in Alger County differ from soils that formed in a dry, warm climate or from those that formed in a moist, hot climate. Climate is uniform throughout the county, but its effect is modified locally by the proximity to Lake Superior. The minor differences in the soils in Alger County are partially the result of climatic differences.

Relief

Relief, or topography, has had a marked influence on the formation of the soils in Alger County through its influence on natural drainage, erosion, plant cover, and soil temperature. Slopes in the county range from 0 to 70 percent. Natural drainage ranges from excessively drained on sandy hilltops to very poorly drained in depressions.

Relief influences the formation of soil by affecting runoff and drainage. Drainage in turn, through its effect on aeration of the soil, determines the color of the soil. Runoff is most rapid on the steeper slopes, but in low areas, water can be temporarily ponded.

Water and air move freely through well drained soils but slowly through very poorly drained soils. In soils that are well aerated, the iron and aluminum compounds that give most soils their color are brightly colored and are oxidized. Poorly aerated soils are dull gray and mottled. Traunik soils are examples of well drained, well aerated soils; Davies soils are examples of poorly drained, poorly aerated soils. Both soils formed in similar parent material.

Time

The differences in the length of time that the parent material has been in place are commonly reflected in the degree of development of the soil profile. Some soils form rapidly; others form slowly. Generally, a long time is required for the development of distinct horizons in a soil.

The soils of Alger County range from young to mature. The glacial deposits in which many of the soils formed have been exposed to soil-forming factors long enough for the development of distinct horizons. Some soils that formed in recent alluvial sediments have not been in place long enough for the development of distinct horizons. Sturgeon soils, which formed in alluvial materials, are young soils. Greylock soils show the effects of leaching of lime from the soil, which has taken place over a long period of time.

Processes of Soil Formation

The processes responsible for the development of the soil horizons from unconsolidated parent material is referred to as soil genesis. Soil morphology describes the physical, chemical, and biological properties of these horizons.

Several processes were involved in the development of soil horizons in Alger County. These processes include the accumulation of organic matter; the leaching of lime (calcium carbonate) and other bases; the reduction and transfer of iron; the formation and translocation of clay minerals; and the development of soil structure. In most soils, more than one of these processes have been active in the development of horizons.

Organic matter accumulates at the surface to form an A horizon. If the soil is plowed, the A horizon is mixed into a plow layer, or Ap horizon. In the soils of Alger

County, the content of organic matter in the surface layer ranges from high to low. For example, Ruse soils have a high content of organic matter in the surface layer, and Deer Park soils have a low content of organic matter.

The leaching of carbonates and other bases has occurred in most of the soils. Soil scientists generally agree that leaching of bases in soils precedes the translocation of clay minerals. Many of the soils in Alger County are moderately or strongly leached. Traunik soils are leached of carbonates to a depth of 18 to 40 inches. Fence soils are leached to a depth of more than 60 inches. This difference in the depth of leaching is a result of time, relief, and parent material.

The reduction and transfer of iron, a process called gleying, is evident in the somewhat poorly drained, poorly drained, and very poorly drained soils. The gray or dull color in the subsoil indicates the reduction and loss of iron. Davies soils are examples of soils in which the gleying processes are evident.

Translocation of clay minerals has contributed to horizon development. An eluviated, or leached, E horizon above an illuviated Bt horizon has a lower content of clay than the Bt horizon and typically is lighter in color. The Bt horizon typically has an accumulation of clay and clay films in pores and on the faces of peds. The soils displaying this translocation of clay were probably leached of carbonates and soluble salts to a considerable extent before the translocation of clay took place. Leaching of bases and translocation of clays are among the more important processes in horizon differentiation. In Trenary soils, translocated clay, in the form of clay films, has accumulated in the Bt horizon.

In many of the soils in Alger County, iron, aluminum, and humus have moved from the A and E horizons to an illuvial Bhs horizon. The Bhs horizon in such soils commonly is dark reddish brown. Kalkaska and Blue Lake soils are examples of soils in which translocated iron, aluminum, and humus have affected the Bhs horizon.

With the passage of time, the primary soil particles of sand, silt, and clay become combined or arranged into secondary compound particles, or peds. The causes of this aggregation may be physical processes, such as wetting and drying and freezing and thawing cycles; chemical weathering processes; and the activities of organisms, such as earthworms. Soil structure is important because it affects aeration and permeability. The ability of a soil to support plants and its response to management depend as much on soil structure as on fertility.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial cone. A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the

difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush

management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate. A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

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 caving (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 fan shaped and nearly flat; 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.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The

longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

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.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) deposited and cooled 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 remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded 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 small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface

of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. 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.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamellae. Thin layers in the soil where illuviated clay particles have accumulated. These layers generally form in sandy soils and are commonly irregular or discontinuous.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Lodgment till. A basal till commonly characterized by compact fissile structure and containing stones oriented with their long axes generally parallel to the direction of ice movement.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—

fine, medium, and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

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. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic material (parent material). Parent material consisting of accumulated plant remains.

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

Ortstein. A cemented spodic horizon in which the cementing material consists of illuviated sesquioxides, mostly iron and organic matter.

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. 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.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permafrost. Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at

least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

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.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.
Redoximorphic depletions. See Redoximorphic features.
Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.
Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.
Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.
Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.
Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.
Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.
Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

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.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sesquioxide. An oxide containing three atoms of oxygen and two of another element (e.g., aluminum oxide).

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05

millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

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 and by the passage 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.

Spodic horizon. A mineral soil horizon that is characterized by the illuvial accumulation of amorphous materials composed of aluminum and organic carbon with or without iron. The spodic horizon has a certain minimum thickness and a minimum quantity of extractable carbon plus iron plus aluminum in relation to its content of clay.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

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 disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Munising, Michigan)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	23.9	8.3	16.1	44	-18	0	3.36	1.94	4.50	11	43.9
February---	26.7	9.8	18.2	49	-17	1	2.01	1.00	2.82	6	23.7
March------	35.6	18.7	27.1	60	-9	9	2.38	1.39	3.38	6	19.0
April------	47.0	28.7	37.9	77	7	76	2.02	1.09	2.95	6	5.5
May--------	61.5	39.1	50.3	88	23	329	2.73	1.59	3.74	6	.6
June-------	69.6	47.6	58.6	91	31	557	3.12	1.63	4.46	7	.0
July-------	75.3	54.2	64.7	93	37	765	3.34	1.69	4.92	6	.0
August-----	74.4	54.2	64.3	92	37	742	3.02	1.83	4.21	6	.0
September--	65.7	47.5	56.6	87	30	489	3.90	2.65	5.05	9	.0
October----	54.1	37.5	45.8	77	21	207	3.77	2.55	4.95	9	2.2
November---	39.9	27.1	33.5	62	6	26	3.27	2.11	4.43	8	13.0
December---	29.0	15.6	22.3	48	-11	1	3.52	2.12	4.88	11	38.2
Yearly:											
Average---	50.2	32.3	41.3	---	---	---	---	---	---	---	---
Extreme---	101	-27	---	95	-21	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,200	36.45	20.71	42.12	91	146.1

* 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).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Munising, Michigan)

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--	May 13	May 29	June 19
2 years in 10 later than--	May 7	May 22	June 11
5 years in 10 later than--	Apr. 25	May 9	May 27
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 16	Oct. 2	Sept. 12
2 years in 10 earlier than--	Oct. 22	Oct. 8	Sept. 18
5 years in 10 earlier than--	Nov. 4	Oct. 20	Oct. 1

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Munising, Michigan)

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	163	146	100
8 years in 10	174	154	111
5 years in 10	196	169	132
2 years in 10	217	184	152
1 year in 10	228	192	163

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

Map symbol	Soil name	Acres	Percent
10	Beaches	7	*
11C	Deer Park sand, 0 to 10 percent slopes	2,287	0.4
11E	Deer Park sand, 10 to 25 percent slopes	325	*
11F	Deer Park sand, 25 to 60 percent slopes	849	0.1
12B	Rubicon sand, 0 to 6 percent slopes	18,354	3.0
12D	Rubicon sand, 6 to 15 percent slopes	5,900	1.0
12E	Rubicon sand, 15 to 35 percent slopes	1,883	0.3
13B	Kalkaska sand, 0 to 6 percent slopes	35,196	5.8
13D	Kalkaska sand, 6 to 15 percent slopes	10,440	1.7
13E	Kalkaska sand, 15 to 35 percent slopes	2,650	0.4
15A	Croswell sand, 0 to 3 percent slopes	1,652	0.3
16A	Paquin sand, 0 to 3 percent slopes	6,019	1.0
17A	Au Gres sand, 0 to 3 percent slopes	1,415	0.2
18	Kinross muck	4,180	0.7
19	Deford muck	752	0.1
21A	Ingalls sand, 0 to 3 percent slopes	823	0.1
24B	Munising fine sandy loam, 1 to 6 percent slopes	817	0.1
25B	Munising-Yalmer complex, 1 to 6 percent slopes	1,358	0.2
25D	Munising-Yalmer complex, 6 to 18 percent slopes	386	*
31D	Trenary silt loam, 6 to 15 percent slopes	1,603	0.3
33	Ensley muck	511	*
35B	Munising-Yalmer-Frohling complex, calcareous substratum, 1 to 6 percent slopes	8,749	1.4
37B	Grand Sable fine sand, 1 to 6 percent slopes	1,519	0.3
37E	Grand Sable fine sand, 15 to 35 percent slopes	170	*
38B	Rhody-Towes complex, 0 to 4 percent slopes	927	0.2
40B	Waiska cobbly loamy sand, 0 to 6 percent slopes, very stony	1,105	0.2
42	Davies very cobbly muck	211	*
46	Jacobsville muck, very stony	358	*
47C	Deerton-Au Train complex, 1 to 15 percent slopes	888	0.1
47E	Deerton-Au Train complex, 6 to 35 percent slopes	369	*
48	Burt muck	325	*
49B	Cookson fine sandy loam, 1 to 6 percent slopes	353	*
51	Nahma-Ruse complex	1,000	0.2
52B	Summerville fine sandy loam, 1 to 6 percent slopes	262	*
57	Carbondale, Lupton, and Tawas soils	49,830	8.2
58	Dawson, Greenwood, and Loxley soils	15,181	2.5
59	Chippeny-Nahma mucks	7,506	1.2
60	Histosols and Aquents, ponded	4,902	0.8
61	Pits, sand and gravel	388	*
62F	Udipsamments and Udorthents, nearly level to very steep	1,064	0.2
64B	Kiva fine sandy loam, 1 to 6 percent slopes	1,256	0.2
64D	Kiva fine sandy loam, 6 to 15 percent slopes	190	*
65D	Jeske-Gongeau-Deerton complex, bedrock terrace, 1 to 20 percent slopes	2,294	0.4
65F	Jeske-Gongeau-Deerton complex, bedrock terrace, 1 to 45 percent slopes	593	*
66D	Ruse-Ensign-Nykanen complex, bedrock terrace, 1 to 20 percent slopes	5,150	0.8
66F	Ruse-Ensign-Nykanen complex, bedrock terrace, 1 to 45 percent slopes	762	0.1
68	Pits, quarry	29	*
69B	Escanaba sand, 1 to 6 percent slopes	966	0.2
71A	Evart-Sturgeon silt loams, 0 to 2 percent slopes, frequently flooded	1,748	0.3
72E	Deerton-Tokiahok-Trout Bay complex, 8 to 35 percent slopes, dissected	1,897	0.3
72F	Deerton-Tokiahok-Trout Bay complex, 15 to 70 percent slopes, dissected	5,320	0.9
76C	Garlic-Blue Lake-Voelker complex, 1 to 12 percent slopes, dissected	2,387	0.4
76E	Garlic-Blue Lake-Voelker complex, 8 to 35 percent slopes, dissected	5,500	0.9
76F	Garlic-Blue Lake-Voelker complex, 15 to 60 percent slopes, dissected	744	0.1
77B	Garlic-Blue Lake-Voelker complex, 1 to 6 percent slopes	660	0.1
77D	Garlic-Blue Lake-Voelker complex, 6 to 15 percent slopes	1,027	0.2
77E	Garlic-Blue Lake-Voelker complex, 15 to 35 percent slopes	191	*
88	Cathro-Ensley mucks	12,292	2.0
93	Tawas-Deford mucks	11,829	1.9
95B	Liminga fine sand, 0 to 6 percent slopes	464	*
104C	Fence very fine sandy loam, 1 to 12 percent slopes, dissected	169	*
109D	Rousseau-Dawson complex, 0 to 15 percent slopes	192	*
109F	Rousseau-Dawson complex, 0 to 60 percent slopes	78	*

See footnote at end of table.

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

Map symbol	Soil name	Acres	Percent
125B	Stutts-Kalkaska complex, 0 to 6 percent slopes	3,063	0.5
125D	Stutts-Kalkaska complex, 6 to 15 percent slopes	3,357	0.6
125E	Stutts-Kalkaska complex, 15 to 35 percent slopes	782	0.1
135B	Munising, calcareous substratum-Ensley complex, 0 to 6 percent slopes	932	0.2
145C	Munising-Yalmer complex, 1 to 12 percent slopes, dissected, very stony	3,250	0.5
146B	Munising-Skanee complex, 0 to 6 percent slopes, stony	3,550	0.6
147A	Skanee-Gay complex, 0 to 3 percent slopes, very stony	1,767	0.3
148B	Shoepac-Ensley complex, 0 to 6 percent slopes	20,903	3.4
155A	Zeba-Jacobsville complex, 0 to 3 percent slopes, very stony	758	0.1
157B	Reade-Nahma complex, 0 to 6 percent slopes, stony	1,100	0.2
158C	Munising-Abbaye fine sandy loams, 1 to 12 percent slopes, dissected, stony	6,017	1.0
160B	Paquin-Finch sands, 0 to 6 percent slopes	7,279	1.2
161B	Yellowdog-Buckroe complex, 0 to 6 percent slopes, stony	612	0.1
165B	Chocolay-Waiska complex, 1 to 6 percent slopes, very stony	406	*
166	Skandia mucky peat	661	0.1
167	Skandia-Jacobsville complex, stony	829	0.1
170B	Chocolay very stony fine sandy loam, 1 to 6 percent slopes, very stony	1,472	0.2
171B	Paavola very gravelly loamy sand, 0 to 6 percent slopes, very stony	1,854	0.3
172D	Buckroe-Rock outcrop complex, 6 to 25 percent slopes, very bouldery	717	0.1
172F	Buckroe-Rock outcrop complex, 25 to 70 percent slopes, very bouldery	236	*
176B	Croswell-Kinross complex, 0 to 6 percent slopes	1,382	0.2
181E	Frohling-Tokiahok complex, 8 to 35 percent slopes, dissected, stony	903	0.1
185B	McMaster cobbly sandy loam, 0 to 4 percent slopes	1,405	0.2
186B	Chatham fine sandy loam, 1 to 6 percent slopes, stony	5,314	0.9
186D	Chatham fine sandy loam, 6 to 15 percent slopes, stony	2,415	0.4
187B	Reade silt loam, 0 to 4 percent slopes	799	0.1
188B	Eben very cobbly sandy loam, 1 to 6 percent slopes, stony	3,998	0.7
188D	Eben very cobbly sandy loam, 6 to 15 percent slopes, stony	316	*
188E	Eben very cobbly sandy loam, 15 to 35 percent slopes, stony	396	*
191B	Ruse-Ensign complex, 0 to 3 percent slopes	1,593	0.3
197B	Shoepac-Trenary silt loams, 1 to 6 percent slopes	21,495	3.5
198B	Shoepac-Reade silt loams, 1 to 4 percent slopes	825	0.1
200A	Charlevoix-Ensley complex, 0 to 3 percent slopes	8,700	1.4
202B	Sauxhead sandy loam, 1 to 6 percent slopes, rocky, very stony	1,195	0.2
206B	Traunik cobbly fine sandy loam, 1 to 6 percent slopes	3,783	0.6
206D	Traunik cobbly fine sandy loam, 6 to 15 percent slopes	689	0.1
211B	Munising-Abbaye fine sandy loams, 1 to 6 percent slopes	5,353	0.9
214B	Kalkaska-Blue Lake complex, 1 to 6 percent slopes	1,893	0.3
214D	Kalkaska-Blue Lake complex, 6 to 15 percent slopes	3,358	0.6
214E	Kalkaska-Blue Lake complex, 15 to 35 percent slopes	1,464	0.2
221B	Jeske-Au Train-Gongeau complex, 0 to 8 percent slopes	2,180	0.4
225B	Cusino loamy sand, 1 to 6 percent slopes	1,414	0.2
225D	Cusino loamy sand, 6 to 15 percent slopes	309	*
226B	Kalkaska-Cusino complex, 1 to 6 percent slopes	14,907	2.5
226D	Kalkaska-Cusino complex, 6 to 15 percent slopes	4,799	0.8
226E	Kalkaska-Cusino complex, 15 to 35 percent slopes	3,817	0.6
226F	Kalkaska-Cusino complex, 35 to 70 percent slopes	2,813	0.5
227A	Halfaday sand, 0 to 3 percent slopes	2,825	0.5
232B	Shelldrake sand, 0 to 8 percent slopes	517	*
233B	Abbaye-Zeba complex, 0 to 6 percent slopes, very stony	797	0.1
234A	Levasseur-Burt complex, 0 to 3 percent slopes, very stony	1,660	0.3
235B	Sauxhead-Burt complex, 0 to 4 percent slopes, rocky, very stony	4,047	0.7
236B	Waiska stony sandy loam, 1 to 6 percent slopes, extremely bouldery	790	0.1
236D	Waiska stony sandy loam, 6 to 15 percent slopes, extremely bouldery	442	*
237B	Chatham-Davies complex, 0 to 6 percent slopes	1,586	0.3
239B	Longrie-Shingleton complex, 1 to 6 percent slopes	896	0.1
240F	Trout Bay-Gongeau-Shingleton-Rock outcrop complex, 1 to 70 percent slopes	1,895	0.3
241	Cathro-Gay mucks	778	0.1
242B	Kalkaska sand, 0 to 6 percent slopes, severely burned	8,875	1.5
242D	Kalkaska sand, 6 to 15 percent slopes, severely burned	2,326	0.4
242F	Kalkaska sand, 35 to 70 percent slopes, severely burned	416	*
243	Markey mucky peat	3,474	0.6

See footnote at end of table.

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

Map symbol	Soil name	Acres	Percent
245B	Trout Bay-Lupton-Gongeau complex, 0 to 6 percent slopes	4,315	0.7
246B	Garlic sand, 0 to 6 percent slopes	14,142	2.3
246D	Garlic sand, 6 to 15 percent slopes	10,127	1.7
246E	Garlic sand, 15 to 35 percent slopes	2,224	0.4
248B	Escanaba-Greylock complex, 1 to 6 percent slopes	4,414	0.7
248D	Escanaba-Greylock complex, 6 to 15 percent slopes	2,180	0.4
248E	Escanaba-Greylock complex, 15 to 35 percent slopes	338	*
249B	Sauxhead-Skandia complex, 0 to 4 percent slopes	2,609	0.4
250B	Chocolay-Jacobsville complex, 0 to 6 percent slopes, extremely stony	2,073	0.3
251B	Greylock fine sandy loam, 1 to 6 percent slopes	2,192	0.4
251D	Greylock fine sandy loam, 6 to 15 percent slopes	1,094	0.2
252A	Finch-Kinross complex, 0 to 3 percent slopes	7,956	1.3
254C	Kalkaska-Blue Lake complex, 1 to 12 percent slopes, dissected	776	0.1
254E	Kalkaska-Blue Lake complex, 8 to 35 percent slopes, dissected	4,143	0.7
254F	Kalkaska-Blue Lake complex, 15 to 70 percent slopes, dissected	2,068	0.3
255D	Wallace sand, 1 to 15 percent slopes	236	*
256B	Whitewash sand, 0 to 4 percent slopes	387	*
266A	Spot-Finch complex, 0 to 3 percent slopes	1,132	0.2
267A	Finch sand, 0 to 3 percent slopes	1,185	0.2
268C	Munising, calcareous substratum-Frohling, calcareous substratum-Cookson fine sandy loams, 1 to 12 percent slopes, dissected	2,537	0.4
269E	Frohling, calcareous substratum-Garlic-Cookson complex, 8 to 35 percent slopes, dissected	880	0.1
272C	Munising-Yalmer-Frohling complex, calcareous substratum, 1 to 12 percent slopes, dissected	1,367	0.2
275B	Munising, calcareous substratum-Cookson fine sandy loams, 1 to 6 percent slopes	6,207	1.0
281E	Mongo silt loam, 8 to 45 percent slopes, dissected	149	*
282B	Furlong-Shingleton complex, 1 to 6 percent slopes	1,171	0.2
282D	Furlong-Shingleton complex, 6 to 15 percent slopes	259	*
284B	Steuben-Blue Lake-Kalkaska complex, 1 to 6 percent slopes	2,525	0.4
284D	Steuben-Blue Lake-Kalkaska complex, 6 to 15 percent slopes	2,803	0.5
284E	Steuben-Blue Lake-Kalkaska complex, 15 to 35 percent slopes	570	*
285B	Halfaday-Kinross complex, 0 to 4 percent slopes	393	*
286B	Greylock-Cookson fine sandy loams, 1 to 6 percent slopes	2,386	0.4
287B	McMaster-Davies complex, 0 to 4 percent slopes	2,988	0.5
290A	Namur-Ruse complex, 0 to 2 percent slopes, very rocky, very stony	330	*
292B	Mashek fine sandy loam, sandy substratum, 0 to 4 percent slopes	351	*
296D	Islandlake-McMillan complex, 6 to 15 percent slopes	338	*
296E	Islandlake-McMillan complex, 15 to 35 percent slopes	620	0.1
297B	Rubicon sand, 0 to 6 percent slopes, severely burned	1,876	0.3
297D	Rubicon sand, 6 to 15 percent slopes, severely burned	339	*
298B	Wurtsmith-Deford complex, 0 to 6 percent slopes	226	*
299F	Shelldrake fine sand, 2 to 75 percent slopes	413	*
300F	Shelldrake-Dune land complex, 2 to 75 percent slopes	1,912	0.3
301F	Cookson-Nykanen complex, 15 to 50 percent slopes, dissected	360	*
302B	Dillingham-Kalkaska complex, 1 to 6 percent slopes	2,650	0.4
302D	Dillingham-Kalkaska complex, 6 to 15 percent slopes	6,659	1.1
302E	Dillingham-Kalkaska complex, 15 to 35 percent slopes	5,211	0.9
302F	Dillingham-Kalkaska complex, 35 to 70 percent slopes	421	*
303B	Kiva-Trenary fine sandy loams, 1 to 6 percent slopes	157	*
303D	Kiva-Trenary fine sandy loams, 6 to 15 percent slopes	175	*
303E	Kiva-Trenary fine sandy loams, 15 to 35 percent slopes	194	*
305B	Wurtsmith-Meehan sands, 0 to 8 percent slopes	266	*
306C	Deerton-Tokiahok-Jeske complex, 1 to 12 percent slopes, dissected	1,580	0.3
307B	Rubicon sand, 0 to 6 percent slopes, very deep water table	3,530	0.6
307D	Rubicon sand, 6 to 15 percent slopes, very deep water table	280	*
308B	Rubicon-Sultz complex, 0 to 6 percent slopes	147	*
308D	Rubicon-Sultz complex, 6 to 15 percent slopes	100	*
309B	Rubicon sand, 0 to 6 percent slopes, deep water table	1,983	0.3
309D	Rubicon sand, 6 to 15 percent slopes, deep water table	10	*
310B	Kalkaska sand, 0 to 6 percent slopes, burned	11,053	1.8
310D	Kalkaska sand, 6 to 15 percent slopes, burned	2,507	0.4

See footnote at end of table.

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

Map symbol	Soil name	Acres	Percent
310E	Kalkaska sand, 15 to 50 percent slopes, burned	253	*
311B	Kalkaska sand, 0 to 6 percent slopes, very deep water table, burned	1,727	0.3
311D	Kalkaska sand, 6 to 15 percent slopes, very deep water table, burned	241	*
312B	Islandlake sand, 0 to 6 percent slopes, burned	1,241	0.2
312D	Islandlake sand, 6 to 15 percent slopes, burned	323	*
313B	Kalkaska sand, 0 to 6 percent slopes, deep water table, burned	413	*
314B	Blue Lake loamy sand, 0 to 6 percent slopes, very deep water table, burned	48	*
315B	Blue Lake loamy sand, 0 to 6 percent slopes, deep water table, burned	164	*
316B	Blue Lake loamy sand, 0 to 6 percent slopes, burned	162	*
316D	Blue Lake loamy sand, 6 to 15 percent slopes, burned	14	*
317B	Kalkaska sand, 0 to 6 percent slopes, very deep water table	3,613	0.6
317D	Kalkaska sand, 6 to 15 percent slopes, very deep water table	594	*
318B	Islandlake sand, 0 to 6 percent slopes, very deep water table	268	*
318D	Islandlake sand, 6 to 15 percent slopes, very deep water table	71	*
319B	Islandlake sand, 0 to 6 percent slopes	901	0.1
319D	Islandlake sand, 6 to 15 percent slopes	2,777	0.5
319E	Islandlake sand, 15 to 35 percent slopes	1,555	0.3
319F	Islandlake sand, 35 to 60 percent slopes	508	*
320B	Kalkaska sand, 0 to 6 percent slopes, deep water table	1,582	0.3
321B	Kalkaska-Deerton sands, 0 to 6 percent slopes	745	0.1
321D	Kalkaska-Deerton sands, 6 to 15 percent slopes	444	*
W	Water	21,093	3.5
	Total	606,887	100.0

* Less than 0.1 percent.

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

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
10---------- Beaches	8	---	---	---
11C---------- Deer Park	7s	---	---	---
11E---------- Deer Park	7s	---	---	---
11F---------- Deer Park	7s	---	---	---
12B---------- Rubicon	6s	---	---	---
12D---------- Rubicon	7s	---	---	---
12E---------- Rubicon	7s	---	---	---
13B---------- Kalkaska	4s	---	---	---
13D---------- Kalkaska	6s	---	---	---
13E---------- Kalkaska	7s	---	---	---
15A---------- Croswell	4s	---	---	---
16A---------- Paquin	6s	---	---	---
17A---------- Au Gres	4w	---	---	---
18---------- Kinross	6w	---	---	---
19---------- Deford	5w	---	---	---
21A---------- Ingalls	3w	---	---	---
24B---------- Munising	2e	3.0	2.6	70
25B----------		3.0	2.6	70
Munising----------	2e			
Yalmer----------	2e			
25D----------		2.8	2.5	60
Munising----------	4e			
Yalmer----------	4e			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
31D---------- Trenary	3e	3.0	2.8	70
33---------- Ensley	5w	---	---	---
35B----------		3.5	2.6	70
Munising----------	2e			
Yalmer----------	4s			
Frohling----------	2e			
37B---------- Grand Sable	2e	3.0	2.3	70
37E---------- Grand Sable	6e	---	---	---
38B----------		---	---	---
Rhody----------	5w			
Towes----------	3w			
40B---------- Waiska	4s	---	---	---
42---------- Davies	5w	---	---	---
46---------- Jacobsville	5w	---	---	---
47C----------		---	---	---
Deerton----------	6s			
Au Train----------	4s			
47E----------		---	---	---
Deerton----------	7s			
Au Train----------	6s			
48---------- Burt	3w	---	---	---
49B---------- Cookson	2e	2.8	2.6	60
51----------		---	---	---
Nahma----------	5w			
Ruse----------	7w			
52B---------- Summerville	2e	---	---	---
57----------		---	---	---
Carbondale----------	6w			
Lupton----------	6w			
Tawas----------	6w			
58----------		---	---	---
Dawson----------	7w			
Greenwood----------	7w			
Loxley----------	7w			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
59		---	---	---
Chippeny	6w			
Nahma	5w			
60		---	---	---
Histosols	8w			
Aquents	8w			
61.				
Pits				
62F.				
Udipsamments and Udorthents				
64B	2e	3.0	2.4	70
Kiva				
64D	3e	2.8	2.2	60
Kiva				
65D		---	---	---
Jeske	4w			
Gongeau	5w			
Deerton	6s			
65F		---	---	---
Jeske	4w			
Gongeau	5w			
Deerton	7s			
66D		---	---	---
Ruse	5w			
Ensign	3w			
Nykanen	4e			
66F		---	---	---
Ruse	5w			
Ensign	3w			
Nykanen	7e			
68.				
Pits, quarry				
69B	3s	3.0	2.5	70
Escanaba				
71A		---	---	---
Evart	7w			
Sturgeon	5w			
72E		---	---	---
Deerton	7s			
Tokiahok	7e			
Trout Bay	6w			
72F		---	---	---
Deerton	7s			
Tokiahok	7e			
Trout Bay	6w			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
76C		---	---	---
Garlic	6s			
Blue Lake	3e			
Voelker	3e			
76E		---	---	---
Garlic	7s			
Blue Lake	6e			
Voelker	6e			
76F		---	---	---
Garlic	7s			
Blue Lake	7e			
Voelker	7e			
77B		---	---	---
Garlic	6s			
Blue Lake	3s			
Voelker	3s			
77D		---	---	---
Garlic	6s			
Blue Lake	3e			
Voelker	4e			
77E		---	---	---
Garlic	7s			
Blue Lake	6e			
Voelker	7e			
88		---	---	---
Cathro	6w			
Ensley	5w			
93		---	---	---
Tawas	6w			
Deford	5w			
95B	3s	---	---	---
Liminga				
104C	3e	4.0	3.0	80
Fence				
109D		---	---	---
Rousseau	4e			
Dawson	8w			
109F		---	---	---
Rousseau	7e			
Dawson	8w			
125B		---	---	---
Stutts	4e			
Kalkaska	3s			
125D		---	---	---
Stutts	4e			
Kalkaska	3s			
125E		---	---	---
Stutts	4e			
Kalkaska	3s			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
135B		---	---	---
Munising	2e			
Ensley	5w			
145C		---	---	---
Munising	6s			
Yalmer	6s			
146B		---	---	---
Munising	4e			
Skanee	4w			
147A		---	---	---
Skanee	4w			
Gay	5w			
148B		---	---	---
Shoepac	3s			
Ensley	5w			
155A		---	---	---
Zeba	3s			
Jacobsville	5w			
157B		---	---	---
Reade	2e			
Nahma	5w			
158C		---	---	---
Munising	3e			
Abbaye	3e			
160B		---	---	---
Paquin	6s			
Finch	4w			
161B		---	---	---
Yellowdog	6s			
Buckroe	6s			
165B		---	---	---
Chocolay	6s			
Waiska	4s			
166	7w	---	---	---
Skandia				
167		---	---	---
Skandia	7w			
Jacobsville	5w			
170B	6s	---	---	---
Chocolay				
171B	6s	---	---	---
Paavola				
172D		---	---	---
Buckroe	7s			
Rock outcrop	8			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
172F		---	---	---
Buckroe	7s			
Rock outcrop	8			
176B		---	---	---
Croswell	4s			
Kinross	6w			
181E		---	---	---
Frohling	7s			
Tokiahok	7s			
185B	6s	3.0	2.3	60
McMaster				
186B	3s	3.0	2.8	65
Chatham				
186D	6s	2.8	2.6	60
Chatham				
187B	2e	2.8	2.3	65
Reade				
188B	6s	3.5	2.8	75
Eben				
188D	6s	3.2	2.6	70
Eben				
188E	7s	3.5	2.8	---
Eben				
191B		---	---	---
Ruse	7w			
Ensign	3w			
197B		3.5	3.0	75
Shoepac	3s			
Trenary	2e			
198B		3.0	2.5	70
Shoepac	3s			
Reade	2e			
200A		---	---	65
Charlevoix	3w			
Ensley	5w			
202B	6s	---	---	---
Sauxhead				
206B	6s	3.0	2.3	60
Traunik				
206D	6s	2.8	2.2	55
Traunik				
211B		---	---	---
Munising	2e			
Abbaye	2e			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
214B		---	---	---
Kalkaska	4s			
Blue Lake	3s			
214D		---	---	---
Kalkaska	6s			
Blue Lake	3e			
214E		---	---	---
Kalkaska	7s			
Blue Lake	6e			
221B		---	---	---
Jeske	4w			
Au Train	4s			
Gongeau	5w			
225B	4s	---	---	---
Cusino				
225D	6s	---	---	---
Cusino				
226B		---	---	---
Kalkaska	4s			
Cusino	4s			
226D		---	---	---
Kalkaska	6s			
Cusino	6s			
226E		---	---	---
Kalkaska	7s			
Cusino	7s			
226F		---	---	---
Kalkaska	7s			
Cusino	7s			
227A	4s	---	---	---
Halfaday				
232B	6s	---	---	---
Shelldrake				
233B		---	---	---
Abbaye	2e			
Zeba	7s			
234A		---	---	---
Levasseur	7s			
Burt	7s			
235B		---	---	---
Sauxhead	6s			
Burt	7w			
236B	4s	---	---	---
Waiska				
236D	6s	---	---	---
Waiska				

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
237B		2.8	2.6	65
Chatham	3s			
Davies	5w			
239B		---	---	---
Longrie	2e			
Shingleton	4s			
240F		---	---	---
Trout Bay	6w			
Gongeau	5w			
Shingleton	7s			
Rock outcrop	8			
241		---	---	---
Cathro	6w			
Gay	5w			
242B	4s	---	---	---
Kalkaska				
242D	6s	---	---	---
Kalkaska				
242F	7s	---	---	---
Kalkaska				
243	6w	---	---	---
Markey				
245B		---	---	---
Trout Bay	6w			
Lupton	6w			
Gongeau	5w			
246B	4s	---	---	---
Garlic				
246D	6s	---	---	---
Garlic				
246E	7s	---	---	---
Garlic				
248B		3.0	2.4	70
Escanaba	3s			
Greylock	2e			
248D		2.8	2.2	60
Escanaba	3e			
Greylock	3e			
248E		---	---	---
Escanaba	7e			
Greylock	6e			
249B		---	---	---
Sauxhead	6s			
Skandia	7w			
250B		---	---	---
Chocolay	7s			
Jacobsville	5w			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
251B---------- Greylock	2e	3.0	2.8	60
251D---------- Greylock	3e	2.5	2.4	55
252A----------		---	---	---
Finch----------	4w			
Kinross----------	6w			
254C----------		---	---	---
Kalkaska----------	6s			
Blue Lake----------	3e			
254E----------		---	---	---
Kalkaska----------	7s			
Blue Lake----------	6e			
254F----------		---	---	---
Kalkaska----------	7s			
Blue Lake----------	7e			
255D---------- Wallace	4s	---	---	---
256B---------- Whitewash	3s	---	---	---
266A----------		---	---	---
Spot----------	5w			
Finch----------	4w			
267A---------- Finch	4w	---	---	---
268C----------		---	---	---
Munising----------	3e			
Frohling----------	3e			
Cookson----------	3e			
269E----------		---	---	---
Frohling----------	6e			
Garlic----------	7s			
Cookson----------	6e			
272C----------		---	---	---
Munising----------	3e			
Yalmer----------	4s			
Frohling----------	3e			
275B----------		3.2	2.8	70
Munising----------	2e			
Cookson----------	2e			
281E---------- Mongo	7e	---	---	---
282B----------		---	---	---
Furlong----------	4s			
Shingleton----------	4s			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
282D		---	---	---
Furlong	4e			
Shingleton	6s			
284B		---	---	---
Steuben	3s			
Blue Lake	3s			
Kalkaska	4s			
284D		---	---	---
Steuben	4e			
Blue Lake	4e			
Kalkaska	6s			
284E		---	---	---
Steuben	6e			
Blue Lake	6e			
Kalkaska	7s			
285B		---	---	---
Halfaday	4s			
Kinross	6w			
286B		3.2	2.8	70
Greylock	2e			
Cookson	2e			
287B		---	---	---
McMaster	6s			
Davies	5w			
290A		---	---	---
Namur	6s			
Ruse	7w			
292B	2e	---	---	---
Mashek				
296D		---	---	---
Islandlake	6s			
McMillan	4e			
296E		---	---	---
Islandlake	6e			
McMillan	6e			
297B	6s	---	---	---
Rubicon				
297D	7s	---	---	---
Rubicon				
298B		---	---	---
Wurtsmith	4s			
Deford	5w			
299F	7s	---	---	---
Shelldrake				
300F		---	---	---
Shelldrake	7s			
Dune land	7s			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
301F		---	---	---
Cookson	6e			
Nykanen	7e			
302B		---	---	---
Dillingham	4s			
Kalkaska	4s			
302D		---	---	---
Dillingham	6s			
Kalkaska	6s			
302E		---	---	---
Dillingham	7s			
Kalkaska	7s			
302F		---	---	---
Dillingham	7s			
Kalkaska	7s			
303B		3.0	2.8	60
Kiva	2e			
Trenary	2e			
303D		2.8	2.6	55
Kiva	4e			
Trenary	3e			
303E		---	---	---
Kiva	7e			
Trenary	7e			
305B		---	---	---
Wurtsmith	4s			
Meehan	4w			
306C		---	---	---
Deerton	6s			
Tokiahok	6e			
Jeske	3e			
307B	6s	---	---	---
Rubicon				
307D	7s	---	---	---
Rubicon				
308B		---	---	---
Rubicon	6s			
Sultz	3s			
308D		---	---	---
Rubicon	6s			
Sultz	6s			
309B	6s	---	---	---
Rubicon				
309D	7s	---	---	---
Rubicon				
310B	4s	---	---	---
Kalkaska				

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
310D---------- Kalkaska	6s	---	---	---
310E---------- Kalkaska	7e	---	---	---
311B---------- Kalkaska	4s	---	---	---
311D---------- Kalkaska	6s	---	---	---
312B---------- Islandlake	4s	---	---	---
312D---------- Islandlake	6s	---	---	---
313B---------- Kalkaska	4s	---	---	---
314B---------- Blue Lake	3s	---	---	---
315B---------- Blue Lake	3s	---	---	---
316B---------- Blue Lake	3s	---	---	---
316D---------- Blue Lake	3e	---	---	---
317B---------- Kalkaska	4s	---	---	---
317D---------- Kalkaska	6s	---	---	---
318B---------- Islandlake	4s	---	---	---
318D---------- Islandlake	6s	---	---	---
319B---------- Islandlake	4s	---	---	---
319D---------- Islandlake	6s	---	---	---
319E---------- Islandlake	6e	---	---	---
319F---------- Islandlake	7e	---	---	---
320B---------- Kalkaska	4s	---	---	---
321B----------		---	---	---
Kalkaska----------	4s			
Deerton----------	4s			

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

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Oats
		Tons	Tons	Bu
321D----------		---	---	---
Kalkaska----------	6s			
Deerton----------	6s			

Table 6.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
21A	Ingalls sand, 0 to 3 percent slopes (where drained)
31D	Trenary silt loam, 6 to 15 percent slopes
33	Ensley muck (where drained)
49B	Cookson fine sandy loam, 1 to 6 percent slopes
148B	Shoepac-Ensley complex, 0 to 6 percent slopes (where drained)
197B	Shoepac-Trenary silt loams, 1 to 6 percent slopes
198B	Shoepac-Reade silt loams, 1 to 4 percent slopes
200A	Charlevoix-Ensley complex, 0 to 3 percent slopes (where drained)
237B	Chatham-Davies complex, 0 to 6 percent slopes (where drained)
251B	Greylock fine sandy loam, 1 to 6 percent slopes
303B	Kiva-Trenary fine sandy loams, 1 to 6 percent slopes
303D	Kiva-Trenary fine sandy loams, 6 to 15 percent slopes

Table 7.--Forestland Management and Productivity

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table)

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
10. Beaches								
11C:								
Deer Park	Slight	Well suited	Slight	Moderate: Droughty	Black cherry	---	---	Jack pine, red pine.
					Eastern white pine	---	---	
					Jack pine	46	57	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red pine	45	64	
11E:								
Deer Park	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	Black cherry	---	---	Jack pine, red pine.
					Eastern white pine	---	---	
					Jack pine	46	57	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red pine	45	64	
11F:								
Deer Park	Slight	Unsuited: Slope	Slight	Moderate: Droughty	Black cherry	---	---	Jack pine, red pine.
					Eastern white pine	---	---	
					Jack pine	46	57	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red pine	45	64	
12B:								
Rubicon	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine	45	75	
					Jack pine	53	73	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	60	64	
					Red maple	57	36	
					Red pine	53	82	
12D:								
Rubicon	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine	45	75	
					Jack pine	53	73	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	60	64	
					Red maple	57	36	
					Red pine	53	82	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
12E:								
Rubicon	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	Bigtooth aspen	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine	45	75	
					Jack pine	53	73	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	60	64	
					Red maple	57	36	
					Red pine	53	82	
13B:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
13D:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
13E:								
Kalkaska	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
15A:								
Croswell	Slight	Well suited	Moderate: Wetness	Low	Bigtooth aspen	69	86	Eastern white pine, red pine, white spruce.
					Eastern white pine	---	---	
					Jack pine	53	72	
					Northern red oak	---	---	
					Paper birch	54	57	
					Quaking aspen	68	72	
					Red maple	---	---	
					Red pine	55	86	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
16A:								
Paquin	Slight	Well suited	Moderate: Wetness	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine, white spruce.
					Black cherry	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Quaking aspen	---	---	
					Red maple	64	40	
					Red pine	67	120	
					Sugar maple	58	37	
					Yellow birch	---	---	
17A:								
Au Gres	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir	---	72	Eastern white pine, red pine, tamarack, white spruce.
					Eastern hemlock	---	86	
					Eastern white pine	---	---	
					Jack pine	51	69	
					Quaking aspen	---	57	
					Red maple	---	29	
					Red pine	61	104	
18:								
Kinross	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	---	---	---
					Black spruce	---	---	
					Eastern white pine	---	---	
					Jack pine	---	---	
					Northern white-cedar	---	---	
					Paper birch	---	---	
					Quaking aspen	45	32	
					Red maple	---	---	
					Tamarack	---	---	
19:								
Deford	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	---	---	Tamarack.
					Black ash	---	---	
					Eastern hemlock	---	---	
					Northern white-cedar	---	---	
					Paper birch	---	---	
					Quaking aspen	66	57	
					Red maple	---	---	
21A:								
Ingalls	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock	---	---	
					Eastern white pine	53	99	
					Paper birch	54	55	
					Quaking aspen	60	64	
					Red maple	56	36	
					Red pine	56	90	
					White spruce	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
24B:								
Munising------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
25B:								
Munising------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Yalmer--------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Droughty Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
25D:								
Munising------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
25D:								
Yalmer--------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Droughty Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
31D:								
Trenary-------	Slight	Well suited	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Yellow birch--------	61	38	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Balsam fir----------	---	---	
					American basswood---	65	59	
					White ash----------	---	---	
					Quaking aspen-------	---	---	
33:								
Ensley--------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	60	114	---
					Black ash----------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Red maple----------	62	43	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
35B:								
Munising------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Yalmer--------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness Droughty	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
35B:								
Frohling------	Slight	Well suited	Severe: Rooting depth	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
37B:								
Grand Sable---	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
37E:								
Grand Sable---	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
38B:								
Rhody---------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Red maple----------	---	---	
					Speckled alder------	---	---	
					Striped maple-------	---	---	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
38B:								
Towes	Slight	Well suited	Moderate: Wetness Rooting depth	High: Wetness	Arborvitae	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir	---	---	
					Black ash	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Red maple	---	---	
					Striped maple	---	---	
					Sugar maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
40B:								
Waiska	Slight	Poorly suited: Rock fragments	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	71	82	
					Red maple	---	---	
					Sugar maple	61	38	
					Yellow birch	---	---	
42:								
Davies	Slight	Poorly suited: Rock fragments	Severe: Wetness	High: Wetness	Balsam fir	54	105	---
					Black ash	---	---	
					Eastern arborvitae	---	---	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Red maple	55	35	
					White spruce	---	---	
					Yellow birch	---	---	
46:								
Jacobsville	Slight	Well suited	Severe: Wetness	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black ash	55	35	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
47C:								
Deerton	Slight	Well suited	Moderate: Rooting depth	Low	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	60	38	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
47C:								
Au Train------	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	62	39	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
47E:								
Deerton-------	Slight	Poorly suited: Slope	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Au Train------	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	62	39	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
48:								
Burt----------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	45	---	---
					Black spruce--------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
49B:								
Cookson-------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
51:								
Nahma---------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	35	57	---
					Balsam poplar-------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Yellow birch--------	---	---	
Ruse----------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	40	71	---
					Balsam poplar-------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Yellow birch--------	---	---	
52B:								
Summerville---	Slight	Well suited	Severe: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
57:								
Carbondale----	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	40	71	---
					Black spruce--------	15	23	
					Northern white cedar	---	---	
Lupton--------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black spruce--------	---	---	
					Northern white cedar	---	---	
					Paper birch---------	---	---	
					Red maple----------	---	---	
					Tamarack----------	---	---	
Tawas---------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black spruce--------	15	23	
					Northern white cedar	40	59	
58:								
Dawson--------	Slight	Unsuited: Wetness	Severe: Wetness	High: Wetness	Black spruce--------	15	23	---
					Tamarack----------	---	---	
Greenwood-----	Slight	Unsuited: Wetness	Severe: Wetness	High: Wetness	Black spruce--------	15	23	---
					Tamarack----------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
58:								
Loxley	Slight	Unsuited: Wetness	Severe: Wetness	High: Wetness	Black spruce	15	23	---
					Tamarack	---	---	
59:								
Chippeny	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir	35	60	---
					Balsam poplar	---	---	
					Black ash	---	---	
					Eastern white pine	---	---	
					Northern white-cedar	35	51	
					Paper birch	---	---	
					Red maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
Nahma	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	35	57	---
					Balsam poplar	---	---	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Northern white-cedar	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Yellow birch	---	---	
60. Histosols and Aquents								
61. Pits								
62F. Udipsamments and Udorthents								
64B:								
Kiva	Slight	Well suited	Slight	Low	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
64D:								
Kiva----------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
65D:								
Jeske---------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Gongeau-------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	Balsam fir----------	---	---	---
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Deerton-------	Slight	Well suited	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
65F:								
Jeske---------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
65F:								
Gongeau	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Balsam fir	---	---	---
					Eastern hemlock	---	---	
					Eastern white pine	53	99	
					Paper birch	54	55	
					Quaking aspen	60	64	
					Red maple	56	36	
					White spruce	---	---	
					Yellow birch	---	---	
Deerton	Slight	Poorly suited: Slope	Moderate: Rooting depth	Low	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	60	38	
					Yellow birch	---	---	
66D:								
Ruse	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	American beech	---	---	---
					Arborvitae	---	---	
					Balsam fir	---	---	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	54	34	
					Sugar maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
Ensign	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness	American basswood	65	57	Eastern white pine, tamarack, white spruce.
					American beech	---	---	
					Balsam fir	---	---	
					Bigtooth aspen	---	---	
					Northern white-cedar	36	57	
					Paper birch	56	57	
					Quaking aspen	---	---	
					Red pine	---	---	
					Sugar maple	53	29	
Nykanen	Moderate: Slope	Well suited	Severe: Rooting depth Wetness	High: Wetness	Balsam fir	---	---	Eastern white pine, tamarack, white spruce.
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	64	40	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
66F:								
Ruse----------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	American beech------	---	---	---
					Arborvitae----------	---	---	
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	54	34	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Ensign--------	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness	American basswood---	65	57	Eastern white pine, tamarack, white spruce.
					American beech------	---	---	
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Northern white-cedar	36	57	
					Paper birch---------	56	57	
					Quaking aspen-------	---	---	
					Red pine----------	---	---	
					Sugar maple---------	53	29	
Nykanen-------	Severe: Slope	Poorly suited: Slope	Severe: Rooting depth Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
68. Pits, quarry								
69B:								
Escanaba------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
71A:								
Evart	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	American elm	---	---	---
					Arborvitae	---	---	
					Balsam fir	---	---	
					Black ash	---	---	
					Black spruce	---	---	
					Eastern white pine	---	---	
					Green ash	---	---	
					Paper birch	---	---	
					Red maple	---	---	
					Speckled alder	---	---	
					Tamarack	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
Sturgeon	Slight	Well suited	Moderate: Wetness	High: Wetness	American elm	---	---	Eastern white pine, tamarack, white spruce.
					Arborvitae	---	---	
					Balsam fir	---	---	
					Black ash	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Red maple	---	---	
					Speckled alder	---	---	
					Sugar maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
72E:								
Deerton	Slight	Poorly suited: Slope	Moderate: Rooting depth	Low	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	60	38	
					Yellow birch	---	---	
Tokiahok	Slight	Poorly suited: Slope	Severe: Rooting depth	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
72E:								
Trout Bay-----	Moderate: Slope	Poorly suited: Wetness Slope	Severe: Wetness Rooting depth	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	54	34	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
72F:								
Deerton-------	Slight	Unsuited: Slope	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	43	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Tokiahok------	Slight	Unsuited: Slope	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Trout Bay-----	Moderate: Slope	Poorly suited: Slope Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	54	34	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
76C:								
Garlic	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
Blue Lake	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	
Voelker	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
76E:								
Garlic	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
Blue Lake	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
76E:								
Voelker	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
76F:								
Garlic	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
Blue Lake	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	
Voelker	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
77B:								
Garlic	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
77B:								
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Voelker-------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
77D:								
Garlic--------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Voelker-------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
77E:								
Garlic--------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Blue Lake-----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Voelker-------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
88:								
Cathro--------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	40	72	---
					Black spruce--------	15	29	
					Eastern arborvitae--	15	29	
					Paper birch---------	---	---	
					Red maple----------	40	29	
					Tamarack----------	35	29	
					White spruce--------	---	---	
Ensley--------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	60	114	---
					Black ash----------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Red maple----------	62	43	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
93:								
Tawas---------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	40	72	---
					Black ash----------	---	---	
					Northern white-cedar	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
93:								
Deford	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	---	---	Tamarack.
					Black ash	---	---	
					Eastern hemlock	---	---	
					Northern white-cedar	---	---	
					Paper birch	---	---	
					Quaking aspen	66	57	
					Red maple	---	---	
95B:								
Liminga	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	60	38	
104C:								
Fence	Slight	Well suited	Moderate: Wetness	Low	Balsam fir	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	
109D:								
Rousseau	Slight	Well suited	Slight	Moderate: Droughty	Balsam fir	---	---	Jack pine, red pine.
					Bigtooth aspen	53	49	
					Eastern white pine	---	---	
					Jack pine	47	60	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	49	73	
Dawson	Slight	Unsuited: Wetness	Severe: Wetness	High: Wetness	Black spruce	15	22	---
					Tamarack	---	---	
109F:								
Rousseau	Slight	Unsuited: Slope	Slight	Moderate: Droughty	Balsam fir	---	---	Jack pine, red pine.
					Bigtooth aspen	53	49	
					Eastern white pine	---	---	
					Jack pine	47	60	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	49	73	
Dawson	Slight	Unsuited: Wetness	Severe: Wetness	High: Wetness	Black spruce	15	22	---
					Tamarack	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
125B:								
Stutts--------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Eastern white pine--	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	68	123	
					Sugar maple---------	62	39	
125D:								
Stutts--------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Eastern white pine--	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	68	123	
					Sugar maple---------	62	39	
125E:								
Stutts--------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Eastern white pine--	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	68	123	
					Sugar maple---------	62	39	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
135B:								
Munising------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Ensley--------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	60	114	---
					Black ash----------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Red maple----------	62	43	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
145C:								
Munising------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Yalmer--------	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
146B:								
Munising------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
146B:								
Skanee--------	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
147A:								
Skanee--------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Gay----------	Slight	Well suited	Severe: Wetness	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	53	102	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	62	39	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
148B:								
Shoepac-------	Slight	Poorly suited: Wetness	Moderate: Wetness	Moderate: Wetness	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Ensley--------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	60	114	---
					Black ash----------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Red maple----------	62	43	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
155A:								
Zeba	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock	---	---	
					Eastern white pine	53	99	
					Paper birch	54	55	
					Quaking aspen	60	64	
					Red maple	56	36	
					White spruce	---	---	
					Yellow birch	---	---	
Jacobsville	Slight	Well suited	Severe: Wetness	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black ash	55	35	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	
157B:								
Reade	Slight	Poorly suited: Wetness	Moderate: Wetness Rooting depth	High: Wetness	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
Nahma	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	35	57	---
					Balsam poplar	---	---	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Northern white-cedar	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Yellow birch	---	---	
158C:								
Munising	Slight	Poorly suited: Wetness	Severe: Rooting depth Wetness	High: Wetness	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
158C:								
Abbaye--------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	63	39	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
160B:								
Paquin--------	Slight	Well suited	Moderate: Wetness	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, white spruce.
					Black cherry--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	64	40	
					Red pine----------	67	120	
					Sugar maple---------	58	37	
					Yellow birch--------	---	---	
Finch---------	Slight	Poorly suited: Restrictive layer	Moderate: Wetness	High: Wetness	Eastern white pine--	53	100	Eastern white pine, red pine, tamarack, white spruce.
					Jack pine----------	52	72	
					Paper birch---------	54	55	
					Quaking aspen-------	56	57	
					Red maple----------	56	36	
					Red pine----------	56	88	
161B:								
Yellowdog-----	Slight	Poorly suited: Rock fragments	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Buckroe-------	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
165B:								
Chocolay	Slight	Poorly suited: Wetness Rock fragments	Moderate: Wetness Rooting depth	High: Droughty Wetness	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	
Waiska	Slight	Poorly suited: Rock fragments	Slight	Moderate: Droughty	American beech	---	---	American basswood, balsam fir, eastern hemlock, paper birch, quaking aspen, sugar maple, yellow birch.
					Balsam fir	---	---	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	71	82	
					Red maple	---	---	
					Sugar maple	61	38	
					Yellow birch	---	---	
166:								
Skandia	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black spruce	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Red maple	---	---	
					Tamarack	---	---	
					White spruce	---	---	
167:								
Skandia	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black spruce	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Red maple	---	---	
					Tamarack	---	---	
					White spruce	---	---	
Jacobsville	Slight	Well suited	Severe: Wetness	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black ash	55	35	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					White spruce	---	---	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
170B:								
Chocolay------	Slight	Poorly suited: Wetness Rock fragments	Moderate: Wetness Rooting depth	High: Wetness Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
171B:								
Paavola-------	Slight	Poorly suited: Wetness Rock fragments	Moderate: Wetness	High: Wetness Droughty	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
172D:								
Buckroe-------	Slight	Poorly suited: Rock fragments Slope	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Rock outcrop.								
172F:								
Buckroe-------	Slight	Unsuited: Slope Rock fragments	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Rock outcrop.								

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
176B:								
Croswell------	Slight	Well suited	Moderate: Wetness	Low	Bigtooth aspen------	69	86	Eastern white pine, red pine, white spruce.
					Eastern white pine--	---	---	
					Jack pine----------	53	72	
					Northern red oak----	---	---	
					Paper birch---------	54	57	
					Quaking aspen-------	68	72	
					Red maple----------	---	---	
					Red pine----------	55	86	
Kinross-------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black spruce--------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	45	32	
					Red maple----------	---	---	
					Tamarack----------	---	---	
181E:								
Frohling------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Tokiahok------	Slight	Poorly suited: Slope	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
185B:								
McMaster------	Slight	Well suited	Moderate: Wetness	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
186B:								
Chatham-------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	
186D:								
Chatham-------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	
187B:								
Reade---------	Slight	Poorly suited: Wetness	Moderate: Wetness Rooting depth	High: Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
188B:								
Eben----------	Slight	Poorly suited: Rock fragments	Slight	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
188D:								
Eben----------	Slight	Poorly suited: Rock fragments	Slight	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	
188E:								
Eben----------	Slight	Poorly suited: Slope Rock fragments	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	
191B:								
Ruse----------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	40	71	---
					Balsam poplar-------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Yellow birch--------	---	---	
Ensign--------	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness	American basswood---	65	57	Eastern white pine, tamarack, white spruce.
					American beech------	---	---	
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Northern white-cedar	36	57	
					Paper birch---------	56	57	
					Quaking aspen-------	---	---	
					Red pine----------	---	---	
					Sugar maple---------	53	29	
197B:								
Shoepac-------	Slight	Poorly suited: Wetness	Moderate: Wetness	Moderate: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
197B:								
Trenary	Slight	Well suited	Slight	Low	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
198B:								
Shoepac	Slight	Poorly suited: Wetness	Moderate: Wetness	Moderate: Wetness	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
Reade	Slight	Poorly suited: Wetness	Moderate: Wetness Rooting depth	High: Wetness	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
200A:								
Charlevoix	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir	---	---	Norway spruce, eastern white pine, tamarack, white spruce.
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	65	43	
					Sugar maple	62	39	
					White spruce	---	---	
					Yellow birch	---	---	
Ensley	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir	60	114	---
					Black ash	---	---	
					Eastern arborvitae	---	---	
					Eastern hemlock	---	---	
					Red maple	62	43	
					White spruce	---	---	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
202B:								
Sauxhead------	Slight	Poorly suited: Rock fragments	Severe: Wetness Rooting depth	High: Droughty Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
206B:								
Traunik-------	Slight	Poorly suited: Rock fragments	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
206D:								
Traunik-------	Slight	Poorly suited: Rock fragments	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
211B:								
Munising------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Abbaye--------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	63	39	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
214B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
214D:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
214E:								
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
214E:								
Blue Lake	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	
221B:								
Jeske	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness	Balsam fir	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock	---	---	
					Eastern white pine	53	99	
					Paper birch	54	55	
					Quaking aspen	60	64	
					Red maple	56	36	
					White spruce	---	---	
					Yellow birch	---	---	
Au Train	Slight	Well suited	Severe: Rooting depth Wetness	High: Wetness Droughty	American beech	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	62	39	
					Sugar maple	64	40	
					Yellow birch	---	---	
Gongeau	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Balsam fir	---	---	---
					Eastern hemlock	---	---	
					Eastern white pine	53	99	
					Paper birch	54	55	
					Quaking aspen	60	64	
					Red maple	56	36	
					White spruce	---	---	
					Yellow birch	---	---	
225B:								
Cusino	Slight	Well suited	Slight	Moderate: Droughty	American beech	66	41	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	53	34	
					Red pine	---	---	
					Sugar maple	59	39	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
225D:								
Cusino	Slight	Well suited	Slight	Moderate: Droughty	American beech	66	41	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	53	34	
					Red pine	---	---	
					Sugar maple	59	39	
					Yellow birch	---	---	
226B:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
Cusino	Slight	Well suited	Slight	Moderate: Droughty	American beech	66	41	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	53	34	
					Red pine	---	---	
					Sugar maple	59	39	
					Yellow birch	---	---	
226D:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
Cusino	Slight	Well suited	Slight	Moderate: Droughty	American beech	66	41	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	53	34	
					Red pine	---	---	
					Sugar maple	59	39	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
226E:								
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Cusino--------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	66	41	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	53	34	
					Red pine----------	---	---	
					Sugar maple---------	59	39	
					Yellow birch--------	---	---	
226F:								
Kalkaska------	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Cusino--------	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	66	41	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	53	34	
					Red pine----------	---	---	
					Sugar maple---------	59	39	
					Yellow birch--------	---	---	
227A:								
Halfaday------	Slight	Well suited	Moderate: Wetness	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
232B:								
Shelldrake----	Slight	Well suited	Slight	Moderate: Droughty	Black cherry--------	---	---	Eastern white pine, jack pine, red pine.
					Eastern white pine--	---	---	
					Jack pine----------	46	57	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red pine----------	45	64	
233B:								
Abbaye--------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	63	39	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Zeba----------	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
234A:								
Levasseur-----	Slight	Unsuited: Restrictive layer Rock fragments	Severe: Rooting depth Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Burt----------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	45	---	Eastern arborvitae, white spruce.
					Black spruce--------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
235B:								
Sauxhead------	Slight	Poorly suited: Rock fragments	Severe: Wetness Rooting depth	High: Droughty Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
235B:								
Burt----------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	45	---	---
					Black spruce--------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
236B:								
Waiska--------	Slight	Unsuited: Rock fragments	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	71	82	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					Yellow birch--------	---	---	
236D:								
Waiska--------	Slight	Unsuited: Rock fragments	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	71	82	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					Yellow birch--------	---	---	
237B:								
Chatham-------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	68	42	
					Yellow birch--------	---	---	
Davies--------	Slight	Poorly suited: Rock fragments	Severe: Wetness	High: Wetness	Balsam fir----------	54	---	---
					Red maple----------	55	---	
239B:								
Longrie-------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
239B:								
Shingleton----	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
240F:								
Trout Bay-----	Moderate: Slope	Poorly suited: Wetness Slope	Severe: Wetness Rooting depth	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	54	34	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Gongeau-------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae----------	---	---	Balsam fir, eastern hemlock, northern white cedar, red maple, yellow birch.
					Balsam fir----------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	54	34	
					Sugar maple---------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Shingleton----	Slight	Unsuited: Slope	Severe: Rooting depth	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Rock outcrop.								
241:								
Cathro--------	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir----------	40	72	---
					Black spruce--------	15	29	
					Eastern arborvitae--	15	29	
					Paper birch---------	---	---	
					Red maple----------	40	29	
					Tamarack----------	35	29	
					White spruce--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
241:								
Gay	Slight	Well suited	Severe: Wetness	High: Wetness	Arborvitae	---	---	---
					Balsam fir	53	102	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	62	39	
					White spruce	---	---	
					Yellow birch	---	---	
242B:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	Eastern white pine	---	---	Eastern white pine, jack pine, red pine.
					Jack pine	46	57	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	45	64	
242D:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	Eastern white pine	---	---	Eastern white pine, jack pine, red pine.
					Jack pine	46	57	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	45	64	
242F:								
Kalkaska	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, jack pine, red pine.
					Eastern white pine	---	---	
					Jack pine	53	73	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	53	82	
243:								
Markey	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Black spruce	---	---	---
					Northern white cedar	---	---	
					Tamarack	---	---	
245B:								
Trout Bay	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Red maple	54	34	
Lupton	Slight	Poorly suited: Wetness	Severe: Wetness	High: Wetness	Balsam fir	---	---	---
					Black spruce	---	---	
					Northern white cedar	---	---	
					Paper birch	---	---	
					Red maple	---	---	
					Tamarack	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
245B:								
Gongeau	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae	---	---	---
					Balsam fir	---	---	
					Black ash	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	54	34	
					Yellow birch	---	---	
246B:								
Garlic	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
246D:								
Garlic	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
246E:								
Garlic	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	74	139	
					Sugar maple	62	39	
					Yellow birch	---	---	
248B:								
Escanaba	Slight	Well suited	Slight	Low	Balsam fir	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
248B:								
Greylock------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
248D:								
Escanaba------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Greylock------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
248E:								
Escanaba------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Greylock------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
249B:								
Sauxhead------	Slight	Poorly suited: Rock fragments	Severe: Wetness Rooting depth	High: Droughty Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	66	75	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Yellow birch--------	---	---	
Skandia-------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black spruce--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Red maple----------	---	---	
					Tamarack----------	---	---	
					White spruce--------	---	---	
250B:								
Chocolay------	Slight	Poorly suited: Wetness Rock fragments	Moderate: Wetness Rooting depth	High: Wetness Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Jacobsville---	Slight	Poorly suited: Rock fragments	Severe: Wetness	High: Wetness	Arborvitae----------	---	---	---
					Balsam fir----------	---	---	
					Black ash----------	55	35	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
251B:								
Greylock------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
251D:								
Greylock------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
252A:								
Finch---------	Slight	Poorly suited: Restrictive layer	Moderate: Wetness	High: Wetness	Eastern white pine--	53	100	Eastern white pine, red pine, tamarack, white spruce.
					Jack pine----------	52	72	
					Paper birch---------	54	55	
					Quaking aspen-------	56	57	
					Red maple----------	56	36	
					Red pine----------	56	88	
Kinross-------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black spruce--------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	45	32	
					Red maple----------	---	---	
					Tamarack----------	---	---	
254C:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
254E:								
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
254E:								
Blue Lake-----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
254F:								
Kalkaska------	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Blue Lake-----	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
255D:								
Wallace-------	Slight	Poorly suited: Restrictive layer	Severe: Rooting depth	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, red pine, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	52	96	
					Paper birch---------	---	---	
					Quaking aspen-------	75	87	
					Red maple----------	---	---	
					Red pine----------	59	99	
					Sugar maple---------	---	---	
256B:								
Whitewash-----	Slight	Well suited	Slight	Low	Eastern hophornbeam	---	---	Eastern white pine, red pine.
					Red maple----------	---	---	
					Sugar maple---------	64	40	
					Yellow birch--------	---	---	
266A:								
Spot----------	Slight	Poorly suited: Restrictive layer	Severe: Wetness	High: Wetness	Black spruce--------	---	---	---
					Jack pine----------	---	---	
					Northern white cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	40	22	
					Tamarack----------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
266A:								
Finch---------	Slight	Poorly suited: Restrictive layer	Moderate: Wetness	High: Wetness	Eastern white pine--	53	100	Eastern white pine, red pine, tamarack, white spruce.
					Jack pine----------	52	72	
					Paper birch---------	54	55	
					Quaking aspen-------	56	57	
					Red maple----------	56	36	
					Red pine----------	56	88	
267A:								
Finch---------	Slight	Poorly suited: Restrictive layer	Moderate: Wetness	High: Wetness	Eastern white pine--	53	100	Eastern white pine, red pine, tamarack, white spruce.
					Jack pine----------	52	72	
					Paper birch---------	54	55	
					Quaking aspen-------	56	57	
					Red maple----------	56	36	
					Red pine----------	56	88	
268C:								
Munising------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Frohling------	Slight	Well suited	Severe: Rooting depth	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Cookson-------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
269E:								
Frohling------	Slight	Poorly suited: Slope	Severe: Rooting depth	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Garlic--------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Cookson-------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
272C:								
Munising------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
272C:								
Yalmer	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness Droughty	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
Frohling	Slight	Well suited	Severe: Rooting depth	Low	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir	---	---	
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
275B:								
Munising	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	Balsam fir	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
Cookson	Slight	Well suited	Slight	Low	Balsam fir	---	---	Eastern white pine, red pine, white spruce.
					Basswood	---	---	
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine	---	---	
					Quaking aspen	78	91	
					Red maple	---	---	
					Sugar maple	66	41	
					Yellow birch	---	---	
281E:								
Mongo	Severe: Slope	Poorly suited: Slope	Slight	Low	Balsam fir	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
282B:								
Furlong-------	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Shingleton----	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
282D:								
Furlong-------	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Shingleton----	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	74	86	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
284B:								
Steuben-------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
284B:								
Blue Lake	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
284D:								
Steuben	Slight	Well suited	Slight	Low	Balsam fir	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Sugar maple	61	38	
					White spruce	---	---	
					Yellow birch	---	---	
Blue Lake	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen	---	---	
					Eastern hemlock	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	
					Yellow birch	---	---	
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	73	136	
					Sugar maple	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
284E:								
Steuben-------	Slight	Poorly suited: Slope	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple-----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
Blue Lake-----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple-----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple-----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
285B:								
Halfaday------	Slight	Well suited	Moderate: Wetness	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple-----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Kinross-------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black spruce--------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	45	32	
					Red maple-----------	---	---	
					Tamarack----------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
286B:								
Greylock------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Cookson-------	Slight	Well suited	Slight	Low	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
287B:								
McMaster------	Slight	Well suited	Moderate: Wetness	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
Davies--------	Slight	Poorly suited: Rock fragments	Severe: Wetness	High: Wetness	Balsam fir----------	54	105	---
					Black ash----------	---	---	
					Eastern arborvitae--	---	---	
					Eastern hemlock-----	---	---	
					Paper birch---------	---	---	
					Red maple----------	55	35	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
290A:								
Namur---------	Slight	Unsuited: Restrictive layer	Severe: Rooting depth	Moderate: Droughty	Eastern white pine--	38	---	Eastern white pine, tamarack, white spruce.
					Northern white cedar	34	49	
					Sugar maple---------	49	32	
					White ash----------	56	36	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
290A:								
Ruse----------	Slight	Poorly suited: Wetness	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	40	71	Balsam fir, black spruce, eastern hemlock, northern white cedar, paper birch, quaking aspen.
					Balsam poplar-------	---	---	
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Yellow birch--------	---	---	
292B:								
Mashek--------	Slight	Poorly suited: Wetness	Moderate: Wetness	High: Wetness	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
296D:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
McMillan------	Slight	Well suited	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, white spruce.
					American beech------	---	---	
					Eastern hophornbeam	---	---	
					American basswood---	---	---	
					White ash----------	---	---	
					Yellow birch--------	---	---	
					Quaking aspen-------	70	81	
296E:								
Islandlake----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
296E:								
McMillan------	Slight	Poorly suited: Slope	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, white spruce.
					American beech------	---	---	
					Eastern hophornbeam	---	---	
					American basswood---	---	---	
					White ash----------	---	---	
					Yellow birch--------	---	---	
					Quaking aspen-------	70	81	
297B:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	
297D:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	
298B:								
Wurtsmith-----	Slight	Well suited	Moderate: Wetness	Moderate: Droughty	Bigtooth aspen------	---	---	Eastern white pine, jack pine, red pine.
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	45	55	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	55	88	
Deford--------	Slight	Well suited	Severe: Wetness	High: Wetness	Balsam fir----------	---	---	---
					Black ash----------	---	---	
					Eastern hemlock-----	---	---	
					Northern white-cedar	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	66	57	
					Red maple----------	---	---	
299F:								
Shelldrake----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	74	139	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
300F:								
Shelldrake----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	Black cherry--------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Eastern white pine--	---	---	
					Jack pine----------	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	---	---	
Dune land-----	---	---	---	---	---	---	---	Eastern white pine, jack pine, red pine.
301F:								
Cookson-------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Nykanen-------	Moderate: Slope	Poorly suited: Slope	Severe: Rooting depth Wetness	High: Wetness	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
					Yellow birch--------	---	---	
302B:								
Dillingham----	Slight	Well suited	Severe: Rooting depth	Low	American beech------	60	38	Eastern white pine, red pine.
					Balsam fir----------	---	---	
					Black cherry--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	62	43	
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
302D:								
Dillingham----	Slight	Well suited	Severe: Rooting depth	Low	American beech------	60	38	Eastern white pine, red pine.
					Balsam fir----------	---	---	
					Black cherry--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
302E:								
Dillingham----	Slight	Poorly suited: Slope	Severe: Rooting depth	Low	American beech------	60	38	Eastern white pine, red pine.
					Balsam fir----------	---	---	
					Black cherry--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	62	39	
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
302F:								
Dillingham----	Slight	Unsuited: Slope	Severe: Rooting depth	Low	American beech------	60	38	Eastern white pine, red pine.
					Balsam fir----------	---	---	
					Black cherry--------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	62	38	
Kalkaska------	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
303B:								
Kiva----------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Trenary-------	Slight	Well suited	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Yellow birch--------	61	38	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Balsam fir----------	---	---	
					American basswood---	65	59	
					White ash----------	---	---	
					Quaking aspen-------	---	---	
303D:								
Kiva----------	Slight	Well suited	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	
Trenary-------	Slight	Well suited	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Yellow birch--------	61	38	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Balsam fir----------	---	---	
					American basswood---	65	59	
					White ash----------	---	---	
					Quaking aspen-------	---	---	
303E:								
Kiva----------	Slight	Poorly suited: Slope	Slight	Low	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Basswood----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern hophornbeam	---	---	
					Eastern white pine--	---	---	
					Quaking aspen-------	78	91	
					Red maple----------	---	---	
					Sugar maple---------	66	41	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
303E:								
Trenary-------	Slight	Poorly suited: Slope	Slight	Low	Sugar maple---------	61	38	Eastern white pine, red pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Yellow birch--------	61	38	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Balsam fir----------	---	---	
					American basswood---	65	59	
					White ash----------	---	---	
					Quaking aspen-------	---	---	
305B:								
Wurtsmith-----	Slight	Well suited	Moderate: Wetness	Moderate: Droughty	Bigtooth aspen------	---	---	Eastern white pine, jack pine, red pine.
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	45	55	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	55	88	
Meehan--------	Slight	Well suited	Moderate: Wetness	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
306C:								
Deerton-------	Slight	Well suited	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
Tokiahok------	Slight	Well suited	Severe: Rooting depth	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine, tamarack, white spruce.
					Balsam fir----------	---	---	
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	61	38	
					White spruce--------	---	---	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
306C:								
Jeske---------	Slight	Well suited	Severe: Wetness Rooting depth	High: Wetness	Balsam fir----------	---	---	Eastern white pine, tamarack, white spruce.
					Eastern hemlock-----	---	---	
					Eastern white pine--	53	99	
					Paper birch---------	54	55	
					Quaking aspen-------	60	64	
					Red maple----------	56	36	
					White spruce--------	---	---	
					Yellow birch--------	---	---	
307B:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	
307D:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	
308B:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	
Sultz---------	Slight	Well suited	Slight	Moderate: Droughty	Balsam fir----------	---	---	Eastern white pine, jack pine, red pine.
					Eastern white pine--	---	---	
					Jack pine----------	---	---	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	---	---	
308D:								
Rubicon-------	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen------	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine--	45	75	
					Jack pine----------	53	73	
					Northern red oak----	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	60	64	
					Red maple----------	57	36	
					Red pine----------	53	82	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
308D:								
Sultz	Slight	Well suited	Slight	Moderate: Droughty	Balsam fir	---	---	Eastern white pine, jack pine, red pine.
					Eastern white pine	---	---	
					Jack pine	---	---	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	---	---	
309B:								
Rubicon	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine	45	75	
					Jack pine	53	73	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	60	64	
					Red maple	57	36	
					Red pine	53	82	
309D:								
Rubicon	Slight	Well suited	Slight	Moderate: Droughty	Bigtooth aspen	66	75	Eastern white pine, jack pine, red pine.
					Eastern white pine	45	75	
					Jack pine	53	73	
					Northern red oak	---	---	
					Paper birch	---	---	
					Quaking aspen	60	64	
					Red maple	57	36	
					Red pine	53	82	
310B:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, jack pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Jack pine	59	84	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	56	90	
					Sugar maple	---	---	
310D:								
Kalkaska	Slight	Well suited	Slight	Moderate: Droughty	American beech	---	---	Eastern white pine, jack pine, red pine.
					Bigtooth aspen	---	---	
					Eastern white pine	---	---	
					Jack pine	59	84	
					Paper birch	---	---	
					Quaking aspen	---	---	
					Red maple	---	---	
					Red pine	56	90	
					Sugar maple	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
310E:								
Kalkaska------	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
311B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
311D:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
312B:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
312D:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
313B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
314B:								
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
315B:								
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
316B:								
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
316D:								
Blue Lake-----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
317B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
317D:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
318B:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
318D:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
319B:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
319D:								
Islandlake----	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
319E:								
Islandlake----	Slight	Poorly suited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
319F:								
Islandlake----	Slight	Unsuited: Slope	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
320B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Jack pine----------	59	84	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	56	90	
					Sugar maple---------	---	---	
321B:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	

See footnote at end of table.

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Erosion hazard	Site preparation	Windthrow hazard	Seedling mortality	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
321B:								
Deerton-------	Slight	Well suited	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	
321D:								
Kalkaska------	Slight	Well suited	Slight	Moderate: Droughty	American beech------	---	---	Eastern white pine, red pine.
					Bigtooth aspen------	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Red pine----------	73	136	
					Sugar maple---------	60	38	
Deerton-------	Slight	Well suited	Moderate: Rooting depth	Low	American beech------	---	---	Eastern white pine, tamarack, white spruce.
					Bigtooth aspen------	---	---	
					Eastern hemlock-----	---	---	
					Eastern white pine--	---	---	
					Paper birch---------	---	---	
					Quaking aspen-------	---	---	
					Red maple----------	---	---	
					Sugar maple---------	60	38	
					Yellow birch--------	---	---	

* Volume is the yield in cubic feet per acre per year at the age of culmination of the mean annual increment for fully stocked stands.

Table 8.--Equipment Limitations on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Absence of an entry indicates that information was not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Rating class and limiting features for most limiting season(s)			Preferred operating season(s)	Rating class and limiting features for preferred operating season(s)		
	Haul roads	Log landings	Logging areas and skid roads		Haul roads	Log landings	Logging areas and skid roads
10. Beaches							
11C:							
Deer Park	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
11E:							
Deer Park	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Well suited
11F:							
Deer Park	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
12B:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
12D:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
12E:							
Rubicon	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
13B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
13D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
13E:							
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
15A:							
Croswell	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
16A:							
Paquin	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Well suited	Well suited	Well suited
17A:							
Au Gres	Poorly suited: Wetness	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
18:							
Kinross	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
19:							
Deford	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
21A:							
Ingalls	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
24B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
25B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Yalmer	Moderately suited: Wetness Sandiness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
25D:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Yalmer	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
31D:							
Trenary----------	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
33:							
Ensley----------	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
35B:							
Munising---------	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Yalmer----------	Moderately suited: Wetness Sandiness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Frohling---------	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
37B:							
Grand Sable------	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
37E:							
Grand Sable------	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
38B:							
Rhody----------	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Moderately suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Towes----------	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Moderately suited: Low strength Restrictive layer	Moderately suited: Low strength	Moderately suited: Low strength
40B:							
Waiska----------	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
42:							
Davies	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
46:							
Jacobsville	Poorly suited: Wetness Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
47C:							
Deerton	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive	Moderately suited: Slope	Well suited
Au Train	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
47E:							
Deerton	Moderately suited: Restrictive layer Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Restrictive layer Slope	Poorly suited: Slope	Moderately suited: Slope
Au Train	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Wetness Slope Too sandy	Poorly suited: Wetness Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
48:							
Burt	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Ponding Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Poorly suited: Restrictive layer	Well suited	Well suited
49B:							
Cookson	Moderately suited: Restrictive layer	Well suited	Well suited	Year round	Moderately suited: Restrictive layer	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
51:							
Nahma	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Ruse	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
52B:							
Summerville	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength	Summer, fall, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
57:							
Carbondale	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Lupton	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Tawas	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
58:							
Dawson	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
58:							
Greenwood	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Loxley	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
59:							
Chippeny	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Nahma	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
60. Histosols and Aquents							
61. Pits							
62F. Udipsamments and Udorthents							
64B:							
Kiva	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
64D:							
Kiva	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
65D:							
Jeske	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
65D:							
Gongeau	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Low strength Too sandy	Poorly suited: Low strength Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Deerton	Moderately suited: Restrictive layer Sandiness	Moderately suited: Slope Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
65F:							
Jeske	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
Gongeau	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Low strength Too sandy	Poorly suited: Low strength Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Deerton	Moderately suited: Slope Restrictive layer Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Slope Too sandy	Spring, fall, winter.	Moderately suited: Slope Restrictive layer	Poorly suited: Slope	Moderately suited: Slope
66D:							
Ruse	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Ensign	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Nykanen	Moderately suited: Restrictive layer Low strength	Moderately suited: Slope Low strength	Moderately suited: Low strength	Summer, fall, winter.	Moderately suited: Restrictive layer Low strength	Moderately suited: Slope Low strength	Moderately suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
66F:							
Ruse	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Ensign	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Nykanen	Poorly suited: Restrictive layer Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength	Summer, fall, winter.	Poorly suited: Restrictive layer Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength
68. Pits, quarry							
69B:							
Escanaba	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
71A:							
Evart	Poorly suited: Wetness Flooding Low strength	Poorly suited: Ponding Wetness Flooding	Poorly suited: Wetness Low strength	Summer, winter.	Moderately suited: Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Sturgeon	Poorly suited: Wetness Flooding Low strength	Poorly suited: Wetness Flooding Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Moderately suited: Low strength	Moderately suited: Low strength	Moderately suited: Low strength
72E:							
Deerton	Moderately suited: Restrictive layer Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Restrictive layer Slope	Poorly suited: Slope	Moderately suited: Slope
Tokiahok	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
72E:							
Trout Bay	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Wetness Low strength Slope	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer Slope	Poorly suited: Low strength Slope	Poorly suited: Low strength
72F:							
Deerton	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Tokiahok	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Trout Bay	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Wetness Low strength Slope	Poorly suited: Low strength Wetness Slope	Winter	Poorly suited: Low strength Restrictive layer Slope	Poorly suited: Low strength Slope	Poorly suited: Low strength Slope
76C:							
Garlic	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Voelker	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
76E:							
Garlic	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Blue Lake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Voelker	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
76F:							
Garlic	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Blue Lake	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Voelker	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
77B:							
Garlic	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Voelker	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
77D:							
Garlic	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Voelker	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
77E:							
Garlic	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Blue Lake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Voelker	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
88:							
Cathro	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
88:							
Ensley	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
93:							
Tawas	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Deford	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
95B:							
Liminga	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
104C:							
Fence	Moderately suited: Wetness	Moderately suited: Wetness Low strength Slope	Moderately suited: Low strength Wetness	Summer, fall, winter.	Well suited	Moderately suited: Low strength Slope	Moderately suited: Low strength
109D:							
Rousseau	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Dawson	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
109F:							
Rousseau	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Dawson	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
125B:							
Stutts	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Kalkaska	Moderately suited: Sandiness	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
125D:							
Stutts	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Kalkaska	Moderately suited: Sandiness	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
125E:							
Stutts	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
135B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Ensley	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
145C:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Yalmer	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
146B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Skanee	Poorly suited: Wetness	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
147A:							
Skanee	Poorly suited: Wetness	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
Gay	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
148B:							
Shoepac	Moderately suited: Wetness	Moderately suited: Wetness Low strength	Moderately suited: Low strength Wetness	Summer, fall, winter.	Well suited	Moderately suited: Low strength	Moderately suited: Low strength
Ensley	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
155A:							
Zeba	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
Jacobsville	Poorly suited: Wetness Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
157B:							
Reade	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Wetness Low strength	Poorly suited: Low strength Wetness	Summer, fall, winter.	Moderately suited: Restrictive layer Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Nahma	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
158C:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Abbaye	Moderately suited: Restrictive layer Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Year round	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
160B:							
Paquin	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Well suited	Well suited	Well suited
Finch	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
161B:							
Yellowdog	Moderately suited: Restrictive layer	Well suited	Well suited	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
Buckroe	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
165B:							
Chocolay	Moderately suited: Restrictive layer Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
Waiska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
166:							
Skandia	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
167:							
Skandia----------	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Jacobsville------	Poorly suited: Wetness Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
170B:							
Chocolay---------	Moderately suited: Restrictive layer Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
171B:							
Paavola----------	Moderately suited: Wetness Sandiness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
172D:							
Buckroe----------	Poorly suited: Restrictive layer Rock fragments Slope	Moderately suited: Slope Rock fragments	Moderately suited: Rock fragments	Year round	Poorly suited: Restrictive layer Rock fragments Slope	Moderately suited: Slope Rock fragments	Moderately suited: Rock fragments
Rock outcrop.							
172F:							
Buckroe----------	Poorly suited: Slope Rock fragments	Poorly suited: Slope Rock fragments	Poorly suited: Slope Rock fragments	Year round	Poorly suited: Slope Rock fragments	Poorly suited: Slope Rock fragments	Poorly suited: Slope Rock fragments
Rock outcrop.							
176B:							
Croswell---------	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Kinross----------	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
181E:							
Frohling	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Tokiahok	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
185B:							
McMaster	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Well suited	Well suited	Well suited
186B:							
Chatham	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
186D:							
Chatham	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
187B:							
Reade	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Wetness Low strength	Poorly suited: Low strength Wetness	Summer, fall, winter.	Moderately suited: Restrictive layer Low strength	Poorly suited: Low strength	Poorly suited: Low strength
188B:							
Eben	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
188D:							
Eben	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
188E:							
Eben	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
191B:							
Ruse	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
Ensign	Poorly suited: Restrictive layer	Well suited	Well suited	Summer, winter.	Poorly suited: Restrictive layer	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
197B:							
Shoepac	Moderately suited: Wetness	Moderately suited: Wetness Low strength	Moderately suited: Low strength Wetness	Summer, fall, winter.	Well suited	Moderately suited: Low strength	Moderately suited: Low strength
Trenary	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
198B:							
Shoepac	Moderately suited: Wetness	Moderately suited: Wetness Low strength	Moderately suited: Low strength Wetness	Summer, fall, winter.	Well suited	Moderately suited: Low strength	Moderately suited: Low strength
Reade	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Wetness Low strength	Poorly suited: Low strength Wetness	Summer, fall, winter.	Moderately suited: Restrictive layer Low strength	Poorly suited: Low strength	Poorly suited: Low strength
200A:							
Charlevoix	Poorly suited: Wetness	Poorly suited: Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Well suited	Moderately suited: Low strength	Moderately suited: Low strength
Ensley	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
202B:							
Sauxhead	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
206B:							
Traunik	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
206D:							
Traunik	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
211B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
211B:							
Abbaye	Moderately suited: Restrictive layer Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
214B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
214D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
214E:							
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Blue Lake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
221B:							
Jeske	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
Au Train	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
Gongeau	Poorly suited: Wetness Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
225B:							
Cusino	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
225D:							
Cusino	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
226B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Cusino	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
226D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Cusino	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
226E:							
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Cusino	Moderately suited: Slope Sandiness	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
226F:							
Kalkaska	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Cusino	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
227A:							
Halfaday	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
232B:							
Shelldrake	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
233B:							
Abbaye	Moderately suited: Restrictive layer Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Moderately suited: Restrictive layer	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
233B:							
Zeba	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
234A:							
Levasseur	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness	Poorly suited: Wetness	Summer, winter.	Poorly suited: Restrictive layer	Well suited	Well suited
Burt	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Ponding Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Poorly suited: Restrictive layer	Well suited	Well suited
235B:							
Sauxhead	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
Burt	Poorly suited: Wetness Restrictive layer Sandiness	Poorly suited: Ponding Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Poorly suited: Restrictive layer	Well suited	Well suited
236B:							
Waiska	Poorly suited: Rock fragments Sandiness	Poorly suited: Rock fragments Too sandy	Poorly suited: Rock fragments Too sandy	Spring, fall, winter.	Poorly suited: Rock fragments	Poorly suited: Rock fragments	Poorly suited: Rock fragments
236D:							
Waiska	Poorly suited: Rock fragments Sandiness	Poorly suited: Rock fragments Too sandy Slope	Poorly suited: Rock fragments Too sandy	Spring, fall, winter.	Poorly suited: Rock fragments	Poorly suited: Rock fragments Slope	Poorly suited: Rock fragments
237B:							
Chatham	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Davies	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
239B:							
Longrie	Moderately suited: Restrictive layer	Well suited	Well suited	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
Shingleton	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
240F:							
Trout Bay	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Wetness Low strength Slope	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer Slope	Poorly suited: Low strength Slope	Poorly suited: Low strength
Gongeau	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Low strength Too sandy	Poorly suited: Low strength Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Shingleton	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Rock outcrop.							
241:							
Cathro	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Gay	Poorly suited: Wetness	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Summer, winter.	Well suited	Poorly suited: Low strength	Poorly suited: Low strength
242B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
242D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
242F:							
Kalkaska	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
243:							
Markey	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
245B:							
Trout Bay	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
Lupton	Poorly suited: Wetness Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength	Poorly suited: Low strength	Poorly suited: Low strength
Gongeau	Poorly suited: Wetness Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
246B:							
Garlic	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
246D:							
Garlic	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
246E:							
Garlic	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
248B:							
Escanaba	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Greylock	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
248D:							
Escanaba	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Greylock	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
248E:							
Escanaba	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Greylock	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
249B:							
Sauxhead	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
Skandia	Poorly suited: Wetness Low strength Restrictive layer	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness	Winter	Poorly suited: Low strength Restrictive layer	Poorly suited: Low strength	Poorly suited: Low strength
250B:							
Chocolay	Moderately suited: Restrictive layer Wetness Rock fragments	Moderately suited: Rock fragments Wetness	Moderately suited: Rock fragments Wetness	Year round	Moderately suited: Restrictive layer Rock fragments	Moderately suited: Rock fragments	Moderately suited: Rock fragments
Jacobsville	Poorly suited: Wetness Restrictive layer Rock fragments	Poorly suited: Ponding Wetness Low strength	Poorly suited: Low strength Wetness Rock fragments	Summer, winter.	Moderately suited: Restrictive layer Rock fragments	Poorly suited: Low strength Rock fragments	Poorly suited: Low strength Rock fragments
251B:							
Greylock	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
251D:							
Greylock	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
252A:							
Finch	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
Kinross	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
254C:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
254E:							
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Blue Lake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
254F:							
Kalkaska	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
Blue Lake	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
255D:							
Wallace	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Year round	Well suited	Moderately suited: Slope	Well suited
256B:							
Whitewash	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
266A:							
Spot	Poorly suited: Wetness Sandiness	Poorly suited: Ponding Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
266A:							
Finch	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
267A:							
Finch	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
268C:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Frohling	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Cookson	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited	Year round	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
269E:							
Frohling	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Garlic	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Cookson	Moderately suited: Restrictive layer Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Restrictive layer Slope	Poorly suited: Slope	Moderately suited: Slope
272C:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Yalmer	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Slope	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Frohling	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
275B:							
Munising	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Summer, fall, winter.	Well suited	Well suited	Well suited
Cookson	Moderately suited: Restrictive layer	Well suited	Well suited	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
281E:							
Mongo	Moderately suited: Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength	Summer, fall, winter.	Moderately suited: Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength
282B:							
Furlong	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
Shingleton	Poorly suited: Restrictive layer	Well suited	Well suited	Year round	Poorly suited: Restrictive layer	Well suited	Well suited
282D:							
Furlong	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
Shingleton	Poorly suited: Restrictive layer	Moderately suited: Slope	Well suited	Year round	Poorly suited: Restrictive layer	Moderately suited: Slope	Well suited
284B:							
Steuben	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
284D:							
Steuben	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
284D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
284E:							
Steuben	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Blue Lake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
285B:							
Halfaday	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Kinross	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
286B:							
Greylock	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Cookson	Moderately suited: Restrictive layer	Well suited	Well suited	Year round	Moderately suited: Restrictive layer	Well suited	Well suited
287B:							
McMaster	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Well suited	Well suited	Well suited
Davies	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited
290A:							
Namur	Poorly suited: Restrictive layer	Moderately suited: Low strength	Moderately suited: Low strength	Year round	Poorly suited: Restrictive layer	Moderately suited: Low strength	Moderately suited: Low strength

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
290A:							
Ruse	Poorly suited: Wetness Restrictive layer Low strength	Poorly suited: Ponding Wetness Low strength	Poorly suited: Wetness Low strength	Summer, winter.	Poorly suited: Restrictive layer Low strength	Moderately suited: Low strength	Moderately suited: Low strength
292B:							
Mashek	Moderately suited: Wetness	Moderately suited: Wetness	Moderately suited: Wetness	Year round	Well suited	Well suited	Well suited
296D:							
Islandlake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
McMillan	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
296E:							
Islandlake	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
McMillan	Moderately suited: Slope Sandiness	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
297B:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
297D:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
298B:							
Wurtsmith	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Deford	Poorly suited: Wetness	Poorly suited: Ponding Wetness	Poorly suited: Wetness	Summer, winter.	Well suited	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
299F:							
Shelldrake-------	Moderately suited: Slope	Poorly suited: Slope Too sandy	Moderately suited: Slope Too sandy	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
300F:							
Shelldrake-------	Moderately suited: Slope	Poorly suited: Slope Too sandy	Moderately suited: Slope Too sandy	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Dune land.							
301F:							
Cookson----------	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Nykanen----------	Poorly suited: Restrictive layer Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength	Summer, fall, winter.	Poorly suited: Restrictive layer Slope	Poorly suited: Slope Low strength	Moderately suited: Slope Low strength
302B:							
Dillingham-------	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Kalkaska---------	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
302D:							
Dillingham-------	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Kalkaska---------	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
302E:							
Dillingham-------	Moderately suited: Slope Sandiness	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Kalkaska---------	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Too sandy Slope	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
302F:							
Dillingham-------	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
302F:							
Kalkaska	Poorly suited: Slope	Poorly suited: Slope Too sandy	Poorly suited: Slope Too sandy	Spring, fall, winter.	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
303B:							
Kiva	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
Trenary	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
303D:							
Kiva	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Trenary	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
303E:							
Kiva	Moderately suited: Slope Sandiness	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
Trenary	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
305B:							
Wurtsmith	Moderately suited: Wetness Sandiness	Moderately suited: Wetness Too sandy	Moderately suited: Wetness Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Meehan	Poorly suited: Wetness Sandiness	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Well suited	Well suited	Well suited
306C:							
Deerton	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited
Tokiahok	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
Jeske	Poorly suited: Wetness Restrictive layer	Poorly suited: Wetness Too sandy	Poorly suited: Wetness Too sandy	Summer, winter.	Moderately suited: Restrictive layer	Well suited	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
307B:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
307D:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
308B:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Sultz	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
308D:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Sultz	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
309B:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
309D:							
Rubicon	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
310B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
310D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
310E:							
Kalkaska	Moderately suited: Slope Sandiness	Poorly suited: Slope Too sandy	Moderately suited: Slope Too sandy	Spring, fall, winter.	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
311B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
311D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
312B:							
Islandlake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
312D:							
Islandlake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
313B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
314B:							
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
315B:							
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
316B:							
Blue Lake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
316D:							
Blue Lake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
317B:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
317D:							
Kalkaska	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
318B:							
Islandlake	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
318D:							
Islandlake	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited

Table 8.--Equipment Limitations on Forestland--Continued

Map symbol and soil name	Rating class and limiting features for most limiting season(s): Haul roads	Log landings	Logging areas and skid roads	Preferred operating season(s)	Rating class and limiting features for preferred operating season(s): Haul roads	Log landings	Logging areas and skid roads
319B:							
Islandlake-------	Well suited	Well suited	Well suited	Year round	Well suited	Well suited	Well suited
319D:							
Islandlake-------	Well suited	Moderately suited: Slope	Well suited	Year round	Well suited	Moderately suited: Slope	Well suited
319E:							
Islandlake-------	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope	Year round	Moderately suited: Slope	Poorly suited: Slope	Moderately suited: Slope
319F:							
Islandlake-------	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope	Year round	Poorly suited: Slope	Poorly suited: Slope	Poorly suited: Slope
320B:							
Kalkaska---------	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
321B:							
Kalkaska---------	Moderately suited: Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Well suited	Well suited
Deerton----------	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Well suited	Well suited
321D:							
Kalkaska---------	Moderately suited: Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Well suited	Moderately suited: Slope	Well suited
Deerton----------	Moderately suited: Restrictive layer Sandiness	Moderately suited: Too sandy Slope	Moderately suited: Too sandy	Spring, fall, winter.	Moderately suited: Restrictive layer	Moderately suited: Slope	Well suited

Table 9.--Forestland Understory Plant Communities

(Absence of an entry indicates that information was not available)

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
10. Beaches		
11C: Deer Park	PVC/QAE (Pinus-Vaccinium-Carex/Quercus-Acer-Epigaea)	Canada mayflower blueberry brackenfern hairgrass lowbush blueberry sedge trailing arbutus wintergreen
11E: Deer Park	PVC/QAE (Pinus-Vaccinium-Carex/Quercus-Acer-Epigaea)	Canada mayflower blueberry brackenfern hairgrass lowbush blueberry sedge trailing arbutus wintergreen
11F: Deer Park	PVC/QAE (Pinus-Vaccinium-Carex/Quercus-Acer-Epigaea)	Canada mayflower blueberry brackenfern hairgrass lowbush blueberry sedge trailing arbutus wintergreen
12B: Rubicon	AQV/QAE (Acer-Quercus-Vaccinium/Quercus-Acer-Epigaea)	beaked hazelnut cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern brackenfern
12D: Rubicon	AQV/QAE (Acer-Quercus-Vaccinium/Quercus-Acer-Epigaea)	beaked hazelnut cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern brackenfern
12E: Rubicon	AQV/QAE (Acer-Quercus-Vaccinium/Quercus-Acer-Epigaea)	beaked hazelnut cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern brackenfern

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
13B:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
13D:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
13E:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
15A:		
Croswell	AQV (Acer-Quercus-Vaccinium)	beaked hazelnut brackenfern cowwheat eastern teaberry pin cherry serviceberry starflower sweetfern trailing arbutus twinflower vaccinium
16A:		
Paquin	ATD-D/TMC (Acer-Tsuga-Dryopteris, Dryopteris Phase/Tsuga-Maianthemum-Coptis)	American starflower Canada beadruby Sambucus racemosa var. racemosa bunchberry dogwood coptis partridgeberry red maple shining clubmoss spinulose woodfern wild sarsaparilla
17A:		
Au Gres	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	American starflower Canada mayflower bunchberry dogwood coptis eastern teaberry lowbush blueberry sedge brackenfern

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
18:		
Kinross---------	TTS (Tsuga-Thuja-Sphagnum)	black spruce
		bunchberry dogwood
		coptis
		leatherleaf
		sedge
		speckled alder
		vaccinium
19:		
Deford----------	FMC/TMC (Fraxinus-Mentha-Carex/Tsuga-Maianthemum-Coptis)	blue flag iris
		bunchberry dogwood
		dewberry
		mint
		ostrich fern
		sedge
		speckled alder
		sphagnum moss
		spinulose woodfern
		willow
21A:		
Ingalls---------	TMC-D (Tsuga-Maianthemum-Coptis, Dryopteris Phase)	Canada mayflower
		blueberry
		brackenfern
		bunchberry dogwood
		goldthread
		sphagnum moss
		spinulose shield fern
		starflower
		wood sorrel
		yellow beadlily
24B:		
Munising--------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		false Solomon's seal
		honeysuckle
		partridgeberry
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet
25B:		
Munising--------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		false Solomon's seal
		honeysuckle
		partridgeberry
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
25B:		
Yalmer----------	ATD (Acer-Tsuga-Dryopteris)	American beech
		Canada mayflower
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk
		violet
25D:		
Munising--------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		bloodroot
		false Solomon's seal
		honeysuckle
		partridgeberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet
Yalmer----------	ATD (Acer-Tsuga-Dryopteris)	American beech
		Canada mayflower
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk
		violet
31D:		
Trenary---------	AVO (Acer-Viola-Osmorhiza)	American fly honeysuckle
		Canada white violet
		baneberry
		blue cohosh
		downy yellow violet
		maidenhair fern
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sweet cicely
		trillium
		twistedstalk
		wild lily-of-the-valley
33:		
Ensley----------	FI/TTM (Fraxinus-Impatiens/Tsuga-Thuja-Mitella)	American fly honeysuckle
		American red raspberry
		Canada mayflower
		bedstraw
		bunchberry dogwood
		common ladyfern
		horsetail
		jewelweed
		naked miterwort
		oakfern
		sedge
		sensitive fern
		small enchanter's nightshade
		spinulose woodfern
		starflower

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
35B:		
Munising, calcareous substratum-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew interrupted fern oakfern red elderberry sedge shining clubmoss spinulose woodfern starflower sugar maple twistedstalk violet
Yalmer, calcareous substratum-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
Frohling, calcareous substratum-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
37B:		
Grand Sable-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern shining clubmoss spinulose shield fern sweet cicely twistedstalk
37E:		
Grand Sable-----	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern shining clubmoss spinulose shield fern sweet cicely twistedstalk
38B:		
Rhody----------	TTM (Tsuga-Thuja-Mitella)	bunchberry dogwood dewberry horsetail naked miterwort sedge spinulose shield fern

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
38B:		
Towes	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	horsetail oakfern red elderberry spinulose shield fern twistedstalk violet
40B:		
Waiska, very stony	ATD (Acer-Tsuga-Dryopteris)	bedstraw hairy Solomon's seal ladyfern sedge spinulose shield fern twistedstalk violet wild lily-of-the-valley
42:		
Davies	FI (Fraxinus-Impatiens)	Canada mayflower bedstraw dewberry goldthread horsetail interrupted fern jewelweed ladyfern long beechfern marsh marigold sedge sensitive fern spinulose shield fern wood sorrel
46:		
Jacobsville, very stony	TMC/TTM (Tsuga-Maianthemum-Coptis/Tsuga-Thuja-Mitella)	Canada mayflower bunchberry dogwood goldthread horsetail naked miterwort northern dewberry sedge snowberry speckled alder sphagnum moss willow wood sorrel yellow beadlily
47C:		
Deerton	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
47C:		
Au Train	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower ground pine partridgeberry shining clubmoss spinulose shield fern starflower
47E:		
Deerton	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
Au Train	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower ground pine partridgeberry shining clubmoss spinulose shield fern starflower
48:		
Burt	TMC/TTM (Tsuga-Maianthemum-Coptis/Tsuga-Thuja-Mitella)	Canada mayflower bunchberry dogwood goldthread horsetail naked miterwort northern dewberry sedge snowberry speckled alder sphagnum moss willow wood sorrel yellow beadlily
49B:		
Cookson	AVO (Acer-Viola-Osmorhiza)	Canada white violet downy yellow violet sedge spinulose woodfern sweet cicely trillium twistedstalk wild leek wild lily-of-the-valley
51:		
Nahma	TTM (Tsuga-Thuja-Mitella)	American starflower bunchberry dogwood goldthread miterwort northern dewberry sedge sphagnum moss wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
51:		
Ruse	TTM (Tsuga-Thuja-Mitella)	American starflower bunchberry dogwood goldthread miterwort northern dewberry sedge sphagnum moss wild lily-of-the-valley
52B:		
Summerville	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	maidenhair fern rattlesnake fern sedge sweet cicely trillium twistedstalk
57:		
Carbondale	TTM/TTS (Tsuga-Thuja-Mitella/Tsuga-Thuja-Sphagnum)	American starflower Canada mayflower bog Labrador tea bog rosemary bunchberry dogwood cinnamon fern goldthread horsetail marsh marigold naked miterwort northern dewberry royal fern sedge sensitive fern sphagnum moss spinulose woodfern twinflower violet wood sorrel yellow beadlily
Lupton	TTM/TTS (Tsuga-Thuja-Mitella/Tsuga-Thuja-Sphagnum)	American starflower Canada mayflower bunchberry dogwood cinnamon fern goldthread horsetail naked miterwort northern dewberry sedge sensitive fern sphagnum moss spinulose woodfern twinflower violet wood sorrel yellow beadlily

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
57:		
Tawas	TTM (Tsuga-Thuja-Mitella)	American starflower
		Canada mayflower
		bog rosemary
		bunchberry dogwood
		cinnamon fern
		goldthread
		horsetail
		marsh marigold
		naked miterwort
		northern dewberry
		royal fern
		sedge
		sensitive fern
		sphagnum moss
		spinulose woodfern
		twinflower
		violet
		wood sorrel
		yellow beadlily
58:		
Dawson	PCS (Picea-Chamaedaphne-Sphagnum)	blueberry
		bog Labrador tea
		bog rosemary
		cottongrass
		goldthread
		leatherleaf
		sedge
		sphagnum moss
Greenwood	PCS (Picea-Chamaedaphne-Sphagnum)	blueberry
		bog Labrador tea
		bog rosemary
		cottongrass
		goldthread
		leatherleaf
		sedge
		sphagnum moss
Loxley	PCS (Picea-Chamaedaphne-Sphagnum)	blueberry
		bog Labrador tea
		bog rosemary
		cottongrass
		goldthread
		leatherleaf
		sedge
		sphagnum moss
59:		
Chippeny	TTM/TTS (Tsuga-Thuja-Mitella/Tsuga-Thuja-Sphagnum)	Canada mayflower
		bedstraw
		bunchberry dogwood
		dewberry
		goldthread
		naked miterwort
		sedge
		snowberry
		speckled alder
		sphagnum moss
		twinflower
		wood sorrel

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
59:		
Nahma	TTM/TTS (Tsuga-Thuja-Mitella/Tsuga-Thuja-Sphagnum)	American starflower bunchberry dogwood goldthread miterwort northern dewberry sedge sphagnum moss wild lily-of-the-valley
60. Histosols and Aquents		
61. Pits		
62F. Udipsamments and Udorthents		
64B:		
Kiva	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
64D:		
Kiva	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
65D:		
Jeske, bedrock terrace	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower goldthread ground pine sedge shining clubmoss sphagnum moss spinulose shield fern sugar maple wood sorrel yellow beadlily
Gongeau, bedrock terrace	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower bunchberry dogwood goldthread hairy Solomon's seal sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
65D:		
Deerton, bedrock terrace--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
65F:		
Jeske, bedrock terrace--------	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower goldthread ground pine sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel yellow beadlily
Gongeau, bedrock terrace--------	TMC-D (Tsuga-Maianthemum-Coptis, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood goldthread hairy Solomon's seal sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel
Deerton, bedrock terrace--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
66D:		
Ruse, bedrock terrace--------	AVO-CI (Acer-Viola-Osmorhiza, Circaea-Impatiens Phase)	jewelweed ladyfern sedge sweet cicely wild leek yellow marsh marigold
Ensign, bedrock terrace--------	AVO-CI (Acer-Viola-Osmorhiza, Circaea-Impatiens Phase)	bunchberry dogwood jewelweed ladyfern sedge sweet cicely wild leek

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
66D:		
Nykanen, bedrock terrace	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	false Solomon's seal horsetail ladyfern maidenhair fern sedge smooth yellow violet spinulose shield fern sweet cicely wild leek
66F:		
Ruse, bedrock terrace	AVO-CI (Acer-Viola-Osmorhiza, Circaea-Impatiens Phase)	jewelweed ladyfern sedge sweet cicely wild leek yellow marsh marigold
Ensign, bedrock terrace	AVO-CI (Acer-Viola-Osmorhiza, Circaea-Impatiens Phase)	bunchberry dogwood jewelweed ladyfern sedge sweet cicely wild leek
Nykanen, bedrock terrace	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	false Solomon's seal horsetail ladyfern maidenhair fern sedge smooth yellow violet spinulose shield fern sweet cicely wild leek
68. Pits, quarry		
69B:		
Escanaba	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
71A:		
Evart	FMC (Fraxinus-Mentha-Carex)	Canada thistle beaked hazelnut blue flag iris goldenrod jewelweed meadow-rue miscellaneous perennial grasses sedge sensitive fern stinging nettle wild mint

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
71A:		
Sturgeon	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	Canada thistle beaked hazelnut blue flag iris horsetail jewelweed meadow-rue miscellaneous perennial grasses sedge sensitive fern spinulose shield fern sweet coltsfoot wild mint
72E:		
Deerton, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
Tokiahok, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower downy yellow violet hairy Solomon's seal red elderberry sedge spinulose shield fern starflower twistedstalk
Trout Bay, dissected	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	gooseberry jewelweed oakfern sedge spinulose shield fern
72F:		
Deerton, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
Tokiahok, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower downy yellow violet hairy Solomon's seal red elderberry sedge spinulose shield fern starflower twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
72F:		
Trout Bay, dissected------	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	gooseberry jewelweed oakfern sedge spinulose shield fern
76C:		
Garlic, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood ground pine partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen yellow beadlily
Blue Lake, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
Voelker, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk
76E:		
Garlic, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen
Blue Lake, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
76E:		
Voelker, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk
76F:		
Garlic, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen
Blue Lake, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
Voelker, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk
77B:		
Garlic	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood ground pine partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen yellow beadlily
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
77B:		
Voelker	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk
77D:		
Garlic	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood ground pine partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen yellow beadlily
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
Voelker	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk
77E:		
Garlic	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
Voelker	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower elderberry hairy Solomon's seal spinulose shield fern starflower twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
88:		
Cathro----------	TTM (Tsuga-Thuja-Mitella)	American starflower
		bedstraw
		common ladyfern
		goldthread
		naked miterwort
		northern dewberry
		rattlesnake fern
		sedge
		sphagnum moss
		spinulose woodfern
		wood sorrel
Ensley----------	FI (Fraxinus-Impatiens)	American fly honeysuckle
		American red raspberry
		Canada mayflower
		bedstraw
		bunchberry dogwood
		common ladyfern
		horsetail
		jewelweed
		naked miterwort
		oakfern
		sedge
		sensitive fern
		small enchanter's nightshade
		spinulose woodfern
		starflower
93:		
Tawas----------	TTM (Tsuga-Thuja-Mitella)	American starflower
		Canada mayflower
		cinnamon fern
		goldthread
		horsetail
		naked miterwort
		northern dewberry
		royal fern
		sensitive fern
		sphagnum moss
		spinulose woodfern
		twinflower
		wood sorrel
Deford----------	TMC (Tsuga/Maianthemum-Coptis)	American starflower
		Canada mayflower
		bunchberry dogwood
		coptis
		eastern teaberry
		long beech fern
		oakfern
		sedge
		shining clubmoss
		brackenfern
95B:		
Liminga---------	ATD (Acer-Tsuga-Dryopteris)	American beech
		American starflower
		elderberry
		hairy Solomon's seal
		shining clubmoss
		spinulose woodfern
		sugar maple
		wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
104C:		
Fence, dissected	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		bedstraw
		elderberry
		false Solomon's seal
		hairy Solomon's seal
		ladyfern
		rattlesnake fern
		sedge
		spinulose woodfern
		twistedstalk
		violet
109D:		
Rousseau	QAE (Quercus-Acer-Epigaea)	clubmoss
		lowbush blueberry
		brackenfern
		wintergreen
Dawson	PCS (Picea-Chamaedaphne-Sphagnum)	blueberry
		bog Labrador tea
		bog rosemary
		cottongrass
		goldthread
		leatherleaf
		sedge
		sphagnum moss
109F:		
Rousseau	AQV (Acer-Quercus-Vaccinium)	clubmoss
		lowbush blueberry
		brackenfern
		wintergreen
Dawson	PCS (Picea-Chamaedaphne-Sphagnum)	blueberry
		bog Labrador tea
		bog rosemary
		cottongrass
		goldthread
		leatherleaf
		sedge
		sphagnum moss
125B:		
Stutts	ATD (Acer-Tsuga-Dryopteris)	American starflower
		elderberry
		hairy Solomon's seal
		rattlesnake fern
		sedge
		spinulose shield fern
		stiff clubmoss
		wild sarsaparilla
Kalkaska	ATD (Acer-Tsuga-Dryopteris)	Canada beadruby
		Sambucus racemosa var. racemosa
		false Solomon's seal
		sedge
		shining clubmoss
		spinulose woodfern
		trillium

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
125D:		
Stutts----------	ATD (Acer-Tsuga-Dryopteris)	American starflower elderberry hairy Solomon's seal rattlesnake fern sedge spinulose shield fern stiff clubmoss wild sarsaparilla
Kalkaska--------	ATD (Acer-Tsuga-Dryopteris)	Canada beadruby Sambucus racemosa var. racemosa false Solomon's seal sedge shining clubmoss spinulose woodfern trillium
125E:		
Stutts----------	ATD (Acer-Tsuga-Dryopteris)	American starflower elderberry hairy Solomon's seal rattlesnake fern sedge spinulose shield fern stiff clubmoss wild sarsaparilla
Kalkaska--------	ATD (Acer-Tsuga-Dryopteris)	Canada beadruby Sambucus racemosa var. racemosa false Solomon's seal sedge shining clubmoss spinulose woodfern trillium
135B:		
Munising, calcareous substratum-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew interrupted fern oakfern red elderberry sedge shining clubmoss spinulose woodfern starflower sugar maple twistedstalk violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
135B:		
Ensley----------	FI (Fraxinus-Impatiens)	American fly honeysuckle
		American red raspberry
		Canada mayflower
		bedstraw
		bunchberry dogwood
		common ladyfern
		horsetail
		jewelweed
		naked miterwort
		oakfern
		sedge
		sensitive fern
		small enchanter's nightshade
		spinulose woodfern
		starflower
145C:		
Munising, dissected, very stony----------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		false Solomon's seal
		honeysuckle
		partridgeberry
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet
Yalmer, dissected, very stony----------	ATD (Acer-Tsuga-Dryopteris)	American beech
		Canada mayflower
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk
		violet
146B:		
Munising, stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		false Solomon's seal
		honeysuckle
		partridgeberry
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
146B:		
Skanee, stony---	TMC (Tsuga/Maianthemum-Coptis)	Canada mayflower
		bunchberry dogwood
		eastern teaberry
		goldthread
		hairy Solomon's seal
		sedge
		shining clubmoss
		spinulose shield fern
		starflower
		wild sarsaparilla
		wood sorrel
		yellow beadlily
147A:		
Skanee, very stony----------	TMC (Tsuga/Maianthemum-Coptis)	Canada mayflower
		bunchberry dogwood
		eastern teaberry
		goldthread
		hairy Solomon's seal
		sedge
		shining clubmoss
		spinulose shield fern
		starflower
		wild sarsaparilla
		wood sorrel
		yellow beadlily
Gay, very stony	TMC/FMC (Tsuga-Maianthemum-Coptis/Fraxinus-Mentha-Carex)	American red raspberry
		Canada mayflower
		common ladyfern
		dewberry
		elderberry
		gooseberry
		grasses
		jewelweed
		mint
		nightshade
		sedge
		stinging nettle
148B:		
Shoepac---------	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	American starflower
		Canada mayflower
		Canada white violet
		blue cohosh
		common ladyfern
		downy yellow violet
		hairy Solomon's seal
		sedge
		smooth yellow violet
		spinulose woodfern
		sugar maple
		sweet cicely
		trillium
		violet
		wild leek
		yellow beadlily

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
148B:		
Ensley----------	FI (Fraxinus-Impatiens)	American fly honeysuckle
		American red raspberry
		Canada mayflower
		bedstraw
		bunchberry dogwood
		common ladyfern
		horsetail
		jewelweed
		naked miterwort
		oakfern
		sedge
		sensitive fern
		small enchanter's nightshade
		spinulose woodfern
		starflower
155A:		
Zeba, very stony	TMC (Tsuga-Maianthemum-Coptis)	Canada mayflower
		brackenfern
		bunchberry dogwood
		eastern teaberry
		hairgrass
		sedge
		shining clubmoss
		wild sarsaparilla
		wood sorrel
		yellow beadlily
Jacobsville, very stony-----	TMC/FI (Tsuga-Maianthemum-Coptis/Fraxinus-Impatiens)	Canada mayflower
		bunchberry dogwood
		goldthread
		horsetail
		northern dewberry
		sedge
		snowberry
		speckled alder
		sphagnum moss
		willow
		wood sorrel
		yellow beadlily
157B:		
Reade----------	AVO (Acer-Viola-Osmorhiza)	hairy Solomon's seal
		rattlesnake fern
		sedge
		sweet cicely
		trillium
		twistedstalk
Nahma----------	TTM (Tsuga-Thuja-Mitella)	American starflower
		bunchberry dogwood
		goldthread
		miterwort
		northern dewberry
		sedge
		sphagnum moss
		wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
158C:		
Munising, dissected, stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower false Solomon's seal honeysuckle partridgeberry red elderberry sedge shining clubmoss spinulose woodfern starflower sugar maple twistedstalk violet
Abbaye, dissected, stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower hairy Solomon's seal partridgeberry red elderberry spinulose shield fern starflower sugar maple violet
160B:		
Paquin	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada beadruby Sambucus racemosa var. racemosa bunchberry dogwood coptis partridgeberry red maple shining clubmoss spinulose woodfern wild sarsaparilla
Finch	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	American starflower Canada mayflower blueberry brackenfern bunchberry dogwood eastern teaberry goldthread sedge shining clubmoss wild sarsaparilla wood sorrel yellow beadlily
161B:		
Yellowdog, stony	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower hairy Solomon's seal red elderberry sedge spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
161B:		
Buckroe, stony--	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower feather Solomon's seal red elderberry shining clubmoss spinulose shield fern starflower sugar maple
165B:		
Chocolay, very stony----------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower ground pine hairy Solomon's seal oakfern sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk yellow beadlily
Waiska, very stony----------	ATD (Acer-Tsuga-Dryopteris)	bedstraw hairy Solomon's seal ladyfern rattlesnake fern sedge spinulose shield fern trillium twistedstalk violet
166:		
Skandia---------	PCS/PO (Picea-Chamaedaphne-Sphagnum/Picea-Osmunda)	bog rosemary bunchberry dogwood cinnamon fern creeping snowberry jewelweed leatherleaf long beech fern oakfern ostrich fern royal fern sedge sphagnum moss starflower twistedstalk violet wintergreen

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
167:		
Skandia, stony--	PO (Picea-Osmunda)	American fly honeysuckle
		bunchberry dogwood
		gooseberry
		jewelweed
		long beech fern
		oakfern
		ostrich fern
		redosier dogwood
		sedge
		sphagnum moss
		starflower
		twistedstalk
		violet
		water horsetail
		wintergreen
		wood sorrel
		yellow beadlily
Jacobsville, stony----------	TMC (Tsuga-Maianthemum-Coptis)	Canada mayflower
		bunchberry dogwood
		goldthread
		horsetail
		northern dewberry
		sedge
		snowberry
		speckled alder
		sphagnum moss
		willow
		wood sorrel
		yellow beadlily
170B:		
Chocolay, very stony----------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		ground pine
		hairy Solomon's seal
		oakfern
		sedge
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk
		yellow beadlily
171B:		
Paavola, very stony----------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		false Solomon's seal
		honeysuckle
		partridgeberry
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
172D:		
Buckroe, very bouldery	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower feather Solomon's seal red elderberry shining clubmoss spinulose shield fern starflower sugar maple
Rock outcrop.		
172F:		
Buckroe, very bouldery	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower feather Solomon's seal red elderberry shining clubmoss spinulose shield fern starflower sugar maple
Rock outcrop.		
176B:		
Croswell	AQV (Acer-Quercus-Vaccinium)	beaked hazelnut brackenfern cowwheat eastern teaberry pin cherry serviceberry starflower sweetfern trailing arbutus twinflower vaccinium
Kinross	TTS (Tsuga-Thuja-Sphagnum)	black spruce bunchberry dogwood coptis leatherleaf sedge speckled alder vaccinium
181E:		
Frohling, dissected, stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
181E:		
Tokiahok, dissected, stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower downy yellow violet hairy Solomon's seal red elderberry sedge spinulose shield fern starflower sugar maple twistedstalk
185B:		
McMaster	AVO (Acer-Viola-Osmorhiza)	Canada mayflower bloodroot leatherwood rattlesnake fern spinulose woodfern sugar maple sweet cicely
186B:		
Chatham, stony	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	Canada white violet bedstraw downy yellow violet grasses hairy Solomon's seal maidenhair fern red elderberry spinulose shield fern sweet cicely violet wild leek
186D:		
Chatham, stony	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	Canada white violet bedstraw downy yellow violet grasses hairy Solomon's seal maidenhair fern red elderberry spinulose shield fern sweet cicely violet wild leek
187B:		
Reade	AVO-A/AVO (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Viola-Osmorhiza)	hairy Solomon's seal rattlesnake fern sedge sweet cicely trillium twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
188B:		
Eben, stony-----	AVO-A/AOC (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Osmorhiza-Caulophyllum)	Canada white violet bedstraw bloodroot blue cohosh downy yellow violet northern maidenhair fern rattlesnake fern spinulose woodfern sweet cicely trillium twistedstalk wild leek
188D:		
Eben, stony-----	AVO-A/AOC (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Osmorhiza-Caulophyllum)	Canada white violet bedstraw bloodroot blue cohosh downy yellow violet northern maidenhair fern rattlesnake fern spinulose woodfern sweet cicely trillium twistedstalk wild leek
188E:		
Eben, stony-----	AVO-A/AOC (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Osmorhiza-Caulophyllum)	Canada white violet bedstraw bloodroot blue cohosh downy yellow violet northern maidenhair fern rattlesnake fern spinulose woodfern sweet cicely trillium twistedstalk wild leek
191B:		
Ruse----------	TTM (Tsuga-Thuja-Mitella)	American starflower bunchberry dogwood goldthread miterwort northern dewberry sedge sphagnum moss wild lily-of-the-valley
Ensign----------	TM (Tsuga-Maianthemum)	Canada mayflower beaked hazelnut bedstraw brackenfern ground pine sedge spinulose shield fern starflower wild sarsaparilla yellow beadlily

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
197B:		
Shoepac	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	American starflower Canada mayflower Canada white violet blue cohosh common ladyfern downy yellow violet hairy Solomon's seal sedge smooth yellow violet spinulose woodfern sugar maple sweet cicely trillium violet wild leek yellow beadlily
Trenary	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	American fly honeysuckle Canada mayflower Canada white violet baneberry blue cohosh downy yellow violet maidenhair fern sedge shining clubmoss spinulose woodfern starflower sugar maple sweet cicely trillium twistedstalk
198B:		
Shoepac	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	American starflower Canada mayflower Canada white violet blue cohosh common ladyfern downy yellow violet hairy Solomon's seal sedge smooth yellow violet spinulose woodfern sugar maple sweet cicely trillium violet wild leek yellow beadlily
Reade	AVO (Acer-Viola-Osmorhiza)	hairy Solomon's seal rattlesnake fern sedge sweet cicely trillium twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
200A:		
Charlevoix------	TMC/TMC-D (Tsuga-Maianthemum-Coptis/Tsuga-Maianthemum-Coptis, Dryopteris Phase)	bunchberry dogwood goldthread wood sorrel spinulose woodfern shining clubmoss Canada mayflower starflower yellow beadlily American fly honeysuckle twistedstalk sedge sphagnum moss
Ensley----------	FI/TTM (Fraxinus-Impatiens/Tsuga-Thuja-Mitella)	American fly honeysuckle American red raspberry Canada mayflower bedstraw bunchberry dogwood common ladyfern horsetail jewelweed naked miterwort oakfern sedge sensitive fern small enchanter's nightshade spinulose woodfern starflower
202B:		
Sauxhead, very stony----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	brackenfern elderberry shining clubmoss spinulose shield fern starflower twistedstalk wild lily-of-the-valley
206B:		
Traunik---------	AVO-A/AVO (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Viola-Osmorhiza)	Canada white violet Jack in the pulpit blue cohosh downy yellow violet leatherwood northern maidenhair fern sedge smooth yellow violet sugar maple sweet cicely trillium
206D:		
Traunik---------	AVO-A/AVO (Acer-Viola-Osmorhiza, Adiantum Phase/Acer-Viola-Osmorhiza)	Canada white violet Jack in the pulpit blue cohosh downy yellow violet leatherwood northern maidenhair fern sedge smooth yellow violet sugar maple sweet cicely trillium

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
211B:		
Munising	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower false Solomon's seal honeysuckle partridgeberry red elderberry sedge shining clubmoss spinulose woodfern starflower twistedstalk violet
Abbaye	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower hairy Solomon's seal partridgeberry red elderberry spinulose shield fern starflower sugar maple violet
214B:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
214D:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
214E:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
221B:		
Jeske	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower goldthread ground pine sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel yellow beadlily
Au Train	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower ground pine partridgeberry shining clubmoss spinulose shield fern starflower
Gongeau	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower bunchberry dogwood goldthread hairy Solomon's seal sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel
225B:		
Cusino	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	honeysuckle sedge shining clubmoss spinulose shield fern starflower trout lily twistedstalk wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
225D:		
Cusino----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	honeysuckle sedge shining clubmoss spinulose shield fern starflower trout lily twistedstalk wild lily-of-the-valley
226B:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Cusino----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
226D:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Cusino----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American fly honeysuckle sedge shining clubmoss spinulose shield fern starflower trout lily twistedstalk wild lily-of-the-valley
226E:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Cusino----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American fly honeysuckle sedge shining clubmoss spinulose shield fern starflower trout lily twistedstalk wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
226F:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Cusino----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American fly honeysuckle sedge shining clubmoss spinulose shield fern starflower trout lily twistedstalk wild lily-of-the-valley
227A:		
Halfaday--------	ATD-D/TMC-D (Acer-Tsuga-Dryopteris, Dryopteris Phase/Tsuga-Maianthemum-Coptis, Dryopteris Phase)	Canada mayflower elderberry shining clubmoss spinulose shield fern starflower wood sorrel
232B:		
Shelldrake------	ATD-D/QAE (Acer-Tsuga-Dryopteris, Dryopteris Phase/Quercus-Acer-Epigaea)	blueberry brackenfern goldthread hairgrass lowbush blueberry sedge shining clubmoss spinulose shield fern starflower twinflower wild lily-of-the-valley wintergreen wood sorrel
233B:		
Abbaye, very stony----------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower hairy Solomon's seal partridgeberry red elderberry spinulose shield fern starflower sugar maple violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
233B:		
Zeba, very stony	TMC (Tsuga-Maianthemum-Coptis)	Canada mayflower
		brackenfern
		bunchberry dogwood
		eastern teaberry
		hairgrass
		sedge
		shining clubmoss
		wild sarsaparilla
		wood sorrel
		yellow beadlily
234A:		
Levasseur, very stony----------	TMC (Tsuga-Maianthemum-Coptis)	Canada mayflower
		blueberry
		bunchberry dogwood
		goldthread
		long beech fern
		shining clubmoss
		sphagnum moss
		spinulose shield fern
		starflower
		wood sorrel
Burt, very stony	TMC/TTM (Tsuga-Maianthemum-Coptis/Tsuga-Thuja-Mitella)	Canada mayflower
		bunchberry dogwood
		goldthread
		horsetail
		northern dewberry
		sedge
		speckled alder
		sphagnum moss
		wood sorrel
235B:		
Sauxhead, very stony----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	brackenfern
		elderberry
		shining clubmoss
		spinulose shield fern
		starflower
		twistedstalk
		wild lily-of-the-valley
Burt, very stony	TMC/TTM (Tsuga-Maianthemum-Coptis/Tsuga-Thuja-Mitella)	Canada mayflower
		bunchberry dogwood
		goldthread
		horsetail
		northern dewberry
		sedge
		speckled alder
		sphagnum moss
		wood sorrel
236B:		
Waiska, extremely bouldery-------	ATD (Acer-Tsuga-Dryopteris)	bedstraw
		hairy Solomon's seal
		ladyfern
		sedge
		spinulose shield fern
		twistedstalk
		violet
		wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
236D:		
Waiska, extremely bouldery	ATD (Acer-Tsuga-Dryopteris)	bedstraw hairy Solomon's seal ladyfern sedge spinulose shield fern twistedstalk violet wild lily-of-the-valley
237B:		
Chatham	AVO (Acer-Viola-Osmorhiza)	Canada white violet bedstraw downy yellow violet grasses hairy Solomon's seal maidenhair fern red elderberry spinulose shield fern sweet cicely violet wild leek
Davies	TTM (Tsuga-Thuja-Mitella)	American starflower bedstraw common ladyfern dewberry goldthread naked miterwort northern dewberry rattlesnake fern sedge sphagnum moss spinulose woodfern wood sorrel
239B:		
Longrie	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	Canadian white violet hairy Solomon's seal rattlesnake fern spinulose shield fern sweet cicely twistedstalk
Shingleton	AVO-A (Acer-Viola-Osmorhiza, Adiantum Phase)	Canada white violet red elderberry spinulose shield fern sweet cicely twistedstalk wild leek
240F:		
Trout Bay	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	gooseberry jewelweed oakfern sedge spinulose shield fern

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
240F:		
Gongeau---------	ATD-CI (Acer-Tsuga-Dryopteris, Circaea-Impatiens Phase)	American starflower Canada mayflower bunchberry dogwood goldthread hairy Solomon's seal sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel
Shingleton------	AVO (Acer-Viola-Osmorhiza)	Canada white violet red elderberry spinulose shield fern sweet cicely twistedstalk wild leek
Rock outcrop.		
241:		
Cathro----------	TTM (Tsuga-Thuja-Mitella)	American starflower bedstraw common ladyfern goldthread naked miterwort northern dewberry rattlesnake fern sedge sphagnum moss spinulose woodfern wood sorrel
Gay----------	TMC (Tsuga-Maianthemum-Coptis)	American red raspberry Canada mayflower common ladyfern dewberry elderberry gooseberry grasses jewelweed mint nightshade sedge stinging nettle
242B:		
Kalkaska, severely burned	PVD (Pinus-Vaccinium-Deschampsia)	brackenfern eastern teaberry greygreen reindeer lichen hairgrass lowbush blueberry sedge trailing arbutus

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
242D:		
Kalkaska, severely burned	PVD (Pinus-Vaccinium-Deschampsia)	brackenfern eastern teaberry greygreen reindeer lichen hairgrass lowbush blueberry sedge trailing arbutus
242F:		
Kalkaska, severely burned	ATD-D/AQV (Acer-Tsuga-Dryopteris, Dryopteris Phase/Acer-Quercus-Vaccinium)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge spinulose woodfern wild lily-of-the-valley
243:		
Markey----------	None assigned	blue flag iris bog laurel grasses sedge swamp birch willow
245B:		
Trout Bay-------	TTM (Tsuga-Thuja-Mitella)	bedstraw bunchberry dogwood naked miterwort northern dewberry sedge sphagnum moss
Lupton----------	TTM/TTS (Tsuga-Thuja-Mitella/Tsuga-Thuja-Sphagnum)	American starflower bedstraw bunchberry dogwood naked miterwort northern dewberry northern dewberry sedge sphagnum moss violet wood sorrel
Gongeau---------	TTM/TMC (Tsuga-Thuja-Mitella/Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower bunchberry dogwood goldthread hairy Solomon's seal sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
246B:		
Garlic----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood ground pine partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen yellow beadlily
246D:		
Garlic----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower bunchberry dogwood ground pine partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen yellow beadlily
246E:		
Garlic----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada mayflower partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen
248B:		
Escanaba--------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Greylock--------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
248D:		
Escanaba--------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
248D:		
Greylock	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
248E:		
Escanaba	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Greylock	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
249B:		
Sauxhead	TMV (Tsuga-Maianthemum-Vaccinium)	brackenfern elderberry shining clubmoss spinulose shield fern starflower twistedstalk wild lily-of-the-valley
Skandia	PCS/PO (Picea-Chamaedaphne-Sphagnum/Picea-Osmunda)	bog rosemary bunchberry dogwood cinnamon fern creeping snowberry jewelweed leatherleaf long beech fern oakfern ostrich fern royal fern sedge sphagnum moss starflower twistedstalk violet wintergreen
250B:		
Chocolay, extremely stony	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower ground pine hairy Solomon's seal oakfern sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk yellow beadlily

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
250B:		
Jacobsville, extremely stony	TMC (Tsuga-Maianthemum-Coptis)	Canada mayflower
		bunchberry dogwood
		goldthread
		horsetail
		northern dewberry
		sedge
		snowberry
		speckled alder
		sphagnum moss
		wood sorrel
		yellow beadlily
251B:		
Greylock	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		rattlesnake fern
		spinulose shield fern
		sweet cicely
		trillium
		twistedstalk
251D:		
Greylock	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		rattlesnake fern
		spinulose shield fern
		sweet cicely
		trillium
		twistedstalk
252A:		
Finch	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	American starflower
		Canada mayflower
		blueberry
		brackenfern
		bunchberry dogwood
		eastern teaberry
		goldthread
		sedge
		shining clubmoss
		wild sarsaparilla
		wood sorrel
		yellow beadlily
Kinross	PCS (Picea-Chamaedaphne-Sphagnum)	black spruce
		bunchberry dogwood
		coptis
		leatherleaf
		sedge
		speckled alder
		vaccinium
254C:		
Kalkaska, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech
		American starflower
		Canada mayflower
		elderberry
		hairy Solomon's seal
		shining clubmoss
		spinulose woodfern
		sugar maple

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
254C:		
Blue Lake, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
254E:		
Kalkaska, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Blue Lake, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
254F:		
Kalkaska, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Blue Lake, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
255D:		
Wallace---------	TM (Tsuga-Maianthemum)	American starflower Canada beadruby kinnikinnick spinulose woodfern twinflower wild sarsaparilla

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
256B:		
Whitewash-------	AVO (Acer-Viola-Osmorhiza)	American fly honeysuckle
		American starflower
		false Solomon's seal
		smooth yellow violet
		spinulose woodfern
		sweet cicely
		wild lily-of-the-valley
266A:		
Spot----------	TTS (Tsuga-Thuja-Sphagnum)	bog Labrador tea
		bunchberry dogwood
		goldthread
		sphagnum moss
		wintergreen
Finch----------	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	American starflower
		Canada mayflower
		blueberry
		brackenfern
		bunchberry dogwood
		eastern teaberry
		goldthread
		sedge
		shining clubmoss
		wild sarsaparilla
		wood sorrel
		yellow beadlily
267A:		
Finch----------	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	American starflower
		Canada mayflower
		blueberry
		brackenfern
		bunchberry dogwood
		eastern teaberry
		goldthread
		sedge
		shining clubmoss
		wild sarsaparilla
		wood sorrel
		yellow beadlily
268C:		
Munising, calcareous substratum, dissected------	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower
		Canada yew
		interrupted fern
		oakfern
		red elderberry
		sedge
		shining clubmoss
		spinulose woodfern
		starflower
		sugar maple
		twistedstalk
		violet

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
268C:		
Frohling, calcareous substratum, dissected	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
Cookson, dissected	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada white violet downy yellow violet sedge spinulose woodfern sweet cicely trillium twistedstalk wild leek wild lily-of-the-valley
269E:		
Frohling, calcareous substratum, dissected	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
Garlic, dissected	ATD (Acer-Tsuga-Dryopteris)	American starflower Canada mayflower partridgeberry shining clubmoss spinulose woodfern sugar maple twistedstalk wild sarsaparilla wintergreen
Cookson, dissected	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada white violet downy yellow violet sedge spinulose woodfern sweet cicely trillium twistedstalk wild leek wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
272C:		
Munising, calcareous substratum, dissected------	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew interrupted fern oakfern red elderberry sedge shining clubmoss spinulose woodfern starflower sugar maple twistedstalk violet
Yalmer, calcareous substratum, dissected------	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
Frohling, calcareous substratum, dissected------	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew Canadian white violet bedstraw rattlesnake fern spinulose shield fern sweet cicely twistedstalk
275B:		
Munising, calcareous substratum-----	ATD/AVO (Acer-Tsuga-Dryopteris/Acer-Viola-Osmorhiza)	Canada mayflower Canada yew interrupted fern oakfern red elderberry sedge shining clubmoss spinulose woodfern starflower sugar maple twistedstalk violet
Cookson---------	AVO (Acer-Viola-Osmorhiza)	Canada white violet downy yellow violet sedge spinulose woodfern sweet cicely trillium twistedstalk wild leek wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
281E:		
Mongo, dissected	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		bunchberry dogwood
		downy yellow violet
		hairy Solomon's seal
		red elderberry
		sedge
		spinulose shield fern
		trillium
		twistedstalk
		violet
282B:		
Furlong---------	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		blue cohosh
		red elderberry
		sedge
		spinulose woodfern
		sweet cicely
		wild leek
Shingleton------	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		red elderberry
		spinulose shield fern
		sweet cicely
		twistedstalk
		wild leek
282D:		
Furlong---------	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		blue cohosh
		red elderberry
		sedge
		spinulose woodfern
		sweet cicely
		wild leek
Shingleton------	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		red elderberry
		spinulose shield fern
		sweet cicely
		twistedstalk
		wild leek
284B:		
Steuben---------	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower
		sedge
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk
		violet
		wood sorrel
		yellow beadlily
Blue Lake-------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower
		brackenfern
		ground pine
		sedge
		shining clubmoss
		spinulose shield fern
		starflower
		sugar maple
		twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
284B:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada beadruby clubmoss lily-of-the-valley sedge spinulose woodfern trillium
284D:		
Steuben	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk violet wood sorrel yellow beadlily
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada beadruby clubmoss lily-of-the-valley sedge spinulose woodfern trillium
284E:		
Steuben	ATD (Acer-Tsuga-Dryopteris)	Canada mayflower sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk violet wood sorrel yellow beadlily
Blue Lake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
284E:		
Kalkaska	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
285B:		
Halfaday	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Kinross	TTS (Tsuga-Thuja-Sphagnum)	black spruce bunchberry dogwood coptis leatherleaf sedge speckled alder vaccinium
286B:		
Greylock	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Cookson	AVO (Acer-Viola-Osmorhiza)	Canada white violet downy yellow violet sedge spinulose woodfern sweet cicely trillium twistedstalk wild leek wild lily-of-the-valley
287B:		
McMaster	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	Canada mayflower bloodroot leatherwood rattlesnake fern spinulose woodfern sugar maple sweet cicely

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
287B:		
Davies----------	TMC/TTM (Tsuga-Maianthemum-Coptis/Tsuga-Thuja-Mitella)	bedstraw dewberry goldthread ladyfern long beechfern naked miterwort sedge sensitive fern sphagnum moss twistedstalk wild mint wood sorrel
290A:		
Namur, very stony----------	TM (Tsuga-Maianthemum)	Virginia strawberry choke cherry eastern poison ivy goldenrod greygreen reindeer lichen large leaved aster miscellaneous perennial grasses yarrow
Ruse, very stony	TTM (Tsuga-Thuja-Mitella)	Canada mayflower bedstraw bunchberry dogwood creeping snowberry dewberry naked miterwort sedge sphagnum moss twinflower
292B:		
Mashek, sandy substratum-----	AVO (Acer-Viola-Osmorhiza)	Canada white violet bloodroot maidenhair fern rattlesnake fern sweet cicely wild leek
296D:		
Islandlake------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	brackenfern partridgeberry sedge shining clubmoss spinulose shield fern starflower trillium wild lily-of-the-valley
McMillan--------	ATD (Acer-Tsuga-Dryopteris)	American starflower elderberry hairy Solomon's seal rattlesnake fern sedge spinulose shield fern stiff clubmoss wild sarsaparilla

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
296E:		
Islandlake------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	brackenfern partridgeberry sedge shining clubmoss spinulose shield fern starflower trillium wild lily-of-the-valley
McMillan--------	ATD (Acer-Tsuga-Dryopteris)	American starflower elderberry hairy Solomon's seal rattlesnake fern sedge spinulose shield fern stiff clubmoss wild sarsaparilla
297B:		
Rubicon, severely burned	PVD/QAE (Pinus-Vaccinium-Deschampsia/Quercus-Acer-Epigaea)	brackenfern eastern teaberry greygreen reindeer lichen hairgrass lowbush blueberry sedge trailing arbutus
297D:		
Rubicon, severely burned	PVD/QAE (Pinus-Vaccinium-Deschampsia/Quercus-Acer-Epigaea)	brackenfern eastern teaberry greygreen reindeer lichen hairgrass lowbush blueberry sedge trailing arbutus
298B:		
Wurtsmith-------	TM (Tsuga-Maianthemum)	Canada mayflower blueberry brackenfern cowwheat eastern teaberry grasses sedge serviceberry sweetfern trailing arbutus yellow beadlily

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
298B:		
Deford	FI (Fraxinus-Impatiens)	American fly honeysuckle
		American red raspberry
		Canada mayflower
		bedstraw
		bunchberry dogwood
		common ladyfern
		horsetail
		jewelweed
		naked miterwort
		oakfern
		sedge
		sensitive fern
		small enchanter's nightshade
		spinulose woodfern
		starflower
299F:		
Shelldrake	ATD (Acer-Tsuga-Dryopteris)	American fly honeysuckle
		Solomon's seal
		bedstraw
		brackenfern
		horsetail
		sedge
		spinulose shield fern
		sweet cicely
		twistedstalk
		wild lily-of-the-valley
300F:		
Shelldrake	TMV (Tsuga-Maianthemum-Vaccinium)	blueberry
		brackenfern
		hairgrass
		lowbush blueberry
		sedge
		shining clubmoss
		starflower
		twinflower
		wild lily-of-the-valley
		wintergreen
Dune land.		
301F:		
Cookson, dissected	AVO (Acer-Viola-Osmorhiza)	Canada white violet
		downy yellow violet
		sedge
		spinulose woodfern
		sweet cicely
		trillium
		twistedstalk
		wild leek
		wild lily-of-the-valley
Nykanen, dissected	AVO-CI (Acer-Viola-Osmorhiza, Circaea-Impatiens Phase)	horsetail
		jewelweed
		ladyfern
		smooth yellow violet
		sweet cicely
		wild leek

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
302B:		
Dillingham------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
302D:		
Dillingham------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
302E:		
Dillingham------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
302F:		
Dillingham------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple wild lily-of-the-valley
303B:		
Kiva----------	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Trenary---------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	American fly honeysuckle Canada white violet baneberry blue cohosh downy yellow violet maidenhair fern sedge shining clubmoss spinulose woodfern starflower sweet cicely trillium twistedstalk wild lily-of-the-valley
303D:		
Kiva----------	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Trenary---------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	American fly honeysuckle Canada white violet baneberry blue cohosh downy yellow violet maidenhair fern sedge shining clubmoss spinulose woodfern starflower sweet cicely trillium twistedstalk wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
303E:		
Kiva----------	AVO (Acer-Viola-Osmorhiza)	Canada white violet rattlesnake fern spinulose shield fern sweet cicely trillium twistedstalk
Trenary---------	AVO/ATD (Acer-Viola-Osmorhiza/Acer-Tsuga-Dryopteris)	American fly honeysuckle Canada white violet baneberry blue cohosh downy yellow violet maidenhair fern sedge shining clubmoss spinulose woodfern starflower sweet cicely trillium twistedstalk wild lily-of-the-valley
305B:		
Wurtsmith-------	PVC (Pinus-Vaccinium-Carex)	Canada mayflower blueberry brackenfern cowwheat eastern teaberry grasses sedge serviceberry sweetfern trailing arbutus yellow beadlily
Meehan----------	TMC-V (Tsuga-Maianthemum-Coptis, Vaccinium Phase)	Canada mayflower blueberry brackenfern cowwheat eastern teaberry grasses sedge serviceberry sweetfern trailing arbutus yellow beadlily
306C:		
Deerton, dissected------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
306C:		
Tokiahok, dissected	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower hairy Solomon's seal red elderberry sedge spinulose shield fern starflower sugar maple twistedstalk
Jeske, dissected	TMC (Tsuga-Maianthemum-Coptis)	American starflower Canada mayflower goldthread ground pine red maple sedge shining clubmoss sphagnum moss spinulose shield fern wood sorrel yellow beadlily
307B:		
Rubicon, very deep water table	QAE (Quercus-Acer-Epigaea)	cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern trailing arbutus brackenfern
307D:		
Rubicon, very deep water table	QAE (Quercus-Acer-Epigaea)	cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern trailing arbutus brackenfern
308B:		
Rubicon	AQV (Acer-Quercus-Vaccinium)	beaked hazelnut cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern brackenfern
Sultz	AQV (Acer-Quercus-Vaccinium)	clubmoss lowbush blueberry brackenfern wintergreen

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
308D:		
Rubicon	AQV (Acer-Quercus-Vaccinium)	beaked hazelnut cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern brackenfern
Sultz	AQV (Acer-Quercus-Vaccinium)	clubmoss lowbush blueberry brackenfern wintergreen
309B:		
Rubicon, deep water table	QAE (Quercus-Acer-Epigaea)	cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern trailing arbutus brackenfern
309D:		
Rubicon, deep water table	QAE (Quercus-Acer-Epigaea)	cowwheat eastern teaberry lowbush blueberry rare clubmoss sedge sweetfern trailing arbutus brackenfern
310B:		
Kalkaska, burned	TMV/TM (Tsuga-Maianthemum-Vaccinium/Tsuga-Maianthemum)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge spinulose shield fern wild lily-of-the-valley
310D:		
Kalkaska, burned	TMV/TM (Tsuga-Maianthemum-Vaccinium/Tsuga-Maianthemum)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge spinulose shield fern wild lily-of-the-valley
310E:		
Kalkaska, burned	TMV/TM (Tsuga-Maianthemum-Vaccinium/Tsuga-Maianthemum)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge spinulose shield fern wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
311B:		
Kalkaska, very deep water table, burned--	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley
311D:		
Kalkaska, very deep water table, burned--	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley
312B:		
Islandlake, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern
312D:		
Islandlake, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern
313B:		
Kalkaska, deep water table, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley
313D:		
Kalkaska, deep water table, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
314B:		
Blue Lake, very deep water table, burned--	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower sugar maple twistedstalk
315B:		
Blue Lake, deep water table, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower twistedstalk
316B:		
Blue Lake, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower twistedstalk
316D:		
Blue Lake, burned---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	Canada mayflower brackenfern ground pine sedge shining clubmoss spinulose shield fern starflower twistedstalk
317B:		
Kalkaska, very deep water table----------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
317D:		
Kalkaska, very deep water table	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley
318B:		
Islandlake, very deep water table	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
318D:		
Islandlake, very deep water table	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
319B:		
Islandlake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
319D:		
Islandlake	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
319E:		
Islandlake	ATD (Acer-Tsuga-Dryopteris)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple

Table 9.--Forestland Understory Plant Communities--Continued

Map symbol and soil name	Habitat type (primary/secondary)	Characteristic vegetation
319F:		
Islandlake------	ATD (Acer-Tsuga-Dryopteris)	American beech American starflower Canada mayflower elderberry hairy Solomon's seal shining clubmoss spinulose woodfern sugar maple
320B:		
Kalkaska, deep water table----	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower bigleaf aster brackenfern clubmoss lowbush blueberry sedge wild lily-of-the-valley
321B:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower Canada beadruby clubmoss lily-of-the-valley sedge shining clubmoss spinulose woodfern sugar maple
Deerton---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk
321D:		
Kalkaska--------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American starflower sedge shining clubmoss spinulose shield fern sugar maple trillium wild lily-of-the-valley
Deerton---------	ATD-D (Acer-Tsuga-Dryopteris, Dryopteris Phase)	American beech American starflower Canada mayflower ground pine shining clubmoss spinulose shield fern sugar maple twistedstalk

Table 10a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10:							
Beaches	100	Not rated		Not rated		Not rated	
11C:							
Deer Park	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
11E:							
Deer Park	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
11F:							
Deer Park	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12B:							
Rubicon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
12D:							
Rubicon	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
12E:							
Rubicon	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
13B:							
Kalkaska	94	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
13D:							
Kalkaska	96	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
13E:							
Kalkaska	100	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
15A:							
Croswell	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
16A:							
Paquin	90	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:							
Au Gres	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
18:							
Kinross	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
19:							
Deford	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
21A:							
Ingalls	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.35	Slow water movement	0.35	Slow water movement	0.35
24B:							
Munising	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.50
25B:							
Munising	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.50
Yalmer	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
						Slope	0.50
25D:							
Munising	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to cemented pan	0.99

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D:							
Yalmer----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to cemented pan	0.90
31D:							
Trenary----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
33:							
Ensley----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
35B:							
Munising, calcareous substratum---------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.95	Depth to cemented pan	0.95	Depth to cemented pan	0.95
						Slope	0.12
Yalmer, calcareous substratum---------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.65	Depth to cemented pan	0.65	Depth to cemented pan	0.64
						Slope	0.12
Frohling, calcareous substratum---------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
						Slope	0.88
37B:							
Grand Sable---------	90	Not limited		Not limited		Not limited	
37E:							
Grand Sable---------	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38B:							
Rhody----------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Towes----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40B:							
Waiska, very stony--	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Slope	0.12
42:							
Davies----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
46:							
Jacobsville, very stony----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
47C:							
Deerton----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
						Depth to bedrock	0.84
Au Train----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.50
47E:							
Deerton----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.84
Au Train----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	1.00
48:							
Burt----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
49B:							
Cookson----------	90	Not limited		Not limited		Not limited	
51:							
Nahma----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51:							
Ruse	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Gravel content	0.06
52B:							
Summerville	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
57:							
Carbondale	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Lupton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Tawas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
58:							
Dawson	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Greenwood	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Loxley	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
59:							
Chippeny	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59:							
Nahma	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
60:							
Histosols	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Organic matter content	1.00	Ponding	1.00
Aquents	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
61:							
Pits	100	Not rated		Not rated		Not rated	
62F:							
Udipsamments	50	Not rated		Not rated		Not rated	
Udorthents	50	Not rated		Not rated		Not rated	
64B:							
Kiva	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
64D:							
Kiva	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
65D:							
Jeske, bedrock terrace	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.99
						Slope	0.12
Gongeau, bedrock terrace	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Deerton, bedrock terrace	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
						Depth to bedrock	0.84

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.99
						Slope	0.50
Gongeau, bedrock terrace----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Deerton, bedrock terrace----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.84
66D:							
Ruse, bedrock terrace----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
Ensign, bedrock terrace----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.50
Nykanen, bedrock terrace----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	1.00
66F:							
Ruse, bedrock terrace----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Ensign, bedrock terrace----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.12

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66F:							
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
68:							
Pits, quarry	100	Not rated		Not rated		Not rated	
69B:							
Escanaba	85	Not limited		Not limited		Somewhat limited	
						Slope	0.12
71A:							
Evart	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
Sturgeon	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
72E:							
Deerton, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.84
Tokiahok, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
Trout Bay, dissected	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Organic matter content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
72F:							
Deerton, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.84
Tokiahok, dissected	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72F:							
Trout Bay, dissected	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
76C:							
Garlic, dissected	40	Not limited		Not limited		Very limited	
						Slope	1.00
Blue Lake, dissected	30	Not limited		Not limited		Very limited	
						Slope	1.00
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Slope	1.00
76E:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
76F:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
77B:							
Garlic	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Blue Lake	30	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Voelker	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Slope	0.12

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77D:							
Garlic	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Blue Lake	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Voelker	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
						Depth to cemented pan	1.00
		Slope	0.16	Slope	0.16		
77E:							
Garlic	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
88:							
Cathro	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ensley	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
93:							
Tawas	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Deford	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
95B:							
Liminga	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104C:							
Fence, dissected----	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Depth to saturated zone	0.98
						Slow water movement	0.60
109D:							
Rousseau----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Dawson----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
109F:							
Rousseau----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Dawson----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
125B:							
Stutts----------	65	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Kalkaska----------	35	Not limited		Not limited		Not limited	
125D:							
Stutts----------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Kalkaska----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
125E:							
Stutts----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Kalkaska----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
135B:							
Munising, calcareous substratum---------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.12
Ensley----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145C:							
Munising, dissected, very stony---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
		Large stones	0.47	Large stones	0.47	Depth to cemented pan	0.99
						Large stones	0.47
Yalmer, dissected, very stony---------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
		Large stones	0.47	Large stones	0.47	Depth to cemented pan	0.90
						Large stones	0.47
146B:							
Munising, stony-----	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.12
Skanee, stony-------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
147A:							
Skanee, very stony--	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Gay, very stony-----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
148B:							
Shoepac----------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.12
Ensley----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
155A:							
Zeba, very stony----	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Gravel content	0.07
Jacobsville, very stony----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
157B:							
Reade----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nahma----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
158C:							
Munising, dissected, stony----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
						Depth to cemented pan	0.99
Abbaye, dissected, stony----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	1.00
						Depth to bedrock	0.29
160B:							
Paquin----------	55	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
Finch----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
161B:							
Yellowdog, stony----	50	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.29
						Slope	0.12
Buckroe, stony------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.12
165B:							
Chocolay, very stony	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.47	Depth to bedrock	0.71
						Large stones	0.47
						Slope	0.12
Waiska, very stony--	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Slope	0.12
166:							
Skandia----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
167:							
Skandia, stony------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Jacobsville, stony--	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
170B:							
Chocolay, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.47	Depth to bedrock	0.71
						Large stones	0.47
						Slope	0.12
171B:							
Paavola, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.54	Depth to cemented pan	0.54	Depth to cemented pan	0.54
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Slope	0.12

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
172D:							
Buckroe, very bouldery	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Rock outcrop	15	Not rated		Not rated		Not rated	
172F:							
Buckroe, very bouldery	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Rock outcrop	15	Not rated		Not rated		Not rated	
176B:							
Croswell	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
Kinross	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
181E:							
Frohling, dissected, stony	60	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
Tokiahok, dissected, stony	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
185B:							
McMaster	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
186B:							
Chatham, stony	85	Not limited		Not limited		Somewhat limited	
						Slope	0.12
186D:							
Chatham, stony	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
187B:							
Reade	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
188B:							
Eben, stony---------	85	Somewhat limited		Somewhat limited		Very limited	
		Large stones	0.18	Large stones	0.18	Large stones	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
						Slope	0.12
188D:							
Eben, stony---------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Large stones	0.18	Large stones	0.18	Large stones	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
188E:							
Eben, stony---------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.18	Large stones	0.18	Large stones	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
191B:							
Ruse----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Gravel content	0.06
Ensign----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
197B:							
Shoepac----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
Trenary----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50
198B:							
Shoepac----------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
Reade----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
200A:							
Charlevoix----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Ensley----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
202B:							
Sauxhead, very stony	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Slope	0.12
206B:							
Traunik----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
206D:							
Traunik----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
211B:							
Munising----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.12
Abbaye----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.29
						Slope	0.12
214B:							
Kalkaska----------	60	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
Blue Lake----------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.12
214D:							
Kalkaska----------	55	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
Blue Lake----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
214E:							
Kalkaska----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
Blue Lake----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
221B:							
Jeske----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
221B:							
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.50
Gongeau	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
225B:							
Cusino	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
225D:							
Cusino	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
226B:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
Cusino	45	Not limited		Not limited		Somewhat limited	
						Slope	0.12
226D:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
Cusino	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
226E:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
Cusino	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
226F:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
Cusino	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
227A:							
Halfaday	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
232B:							
Shelldrake----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
233B:							
Abbaye, very stony--	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Depth to bedrock	0.29
						Slope	0.12
Zeba, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
						Gravel content	0.07
234A:							
Levasseur, very stony----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Burt, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
235B:							
Sauxhead, very stony	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Burt, very stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
236B:							
Waiska, extremely bouldery----------	85	Very limited		Very limited		Very limited	
		Large stones	1.00	Large stones	1.00	Large stones	1.00
						Slope	0.12
236D:							
Waiska, extremely bouldery----------	85	Very limited		Very limited		Very limited	
		Large stones	1.00	Large stones	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Large stones	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
237B:							
Chatham	65	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Davies	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
239B:							
Longrie	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Depth to bedrock	0.06
Shingleton	40	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.12
240F:							
Trout Bay	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Gongeau	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.88
Shingleton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
241:							
Cathro	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Gay	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
242B:							
Kalkaska, severely burned----------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
242D:							
Kalkaska, severely burned----------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
242F:							
Kalkaska, severely burned----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
243:							
Markey----------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
245B:							
Trout Bay----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Lupton----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Gongeau----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
246B:							
Garlic----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
246D:							
Garlic----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
246E:							
Garlic----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
248B:							
Escanaba----------	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Greylock----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
248D:							
Escanaba----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Greylock----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
248E:							
Escanaba----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Greylock----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
249B:							
Sauxhead----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.47	Large stones	0.47	Large stones	0.47
Skandia----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
250B:							
Chocolay, extremely stony----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	1.00	Large stones	1.00	Large stones	1.00
						Depth to bedrock	0.71
						Slope	0.12
Jacobsville, extremely stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	1.00	Large stones	1.00	Large stones	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
251B:							
Greylock----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
251D:							
Greylock----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
252A:							
Finch----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
254C:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	1.00
Blue Lake, dissected	35	Not limited		Not limited		Very limited	
						Slope	1.00
254E:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Too sandy	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
254F:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
255D:							
Wallace----------	95	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.01	Slope	0.01	Slope	1.00
256B:							
Whitewash----------	95	Not limited		Not limited		Not limited	
266A:							
Spot----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Finch----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
267A:							
Finch	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
268C:							
Munising, calcareous substratum, dissected	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
						Depth to cemented pan	0.99
Frohling, calcareous substratum, dissected	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
						Depth to cemented pan	0.90
Cookson, dissected	20	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.06
269E:							
Frohling, calcareous substratum, dissected	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
Garlic, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cookson, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
272C:							
Munising, calcareous substratum, dissected	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
						Depth to cemented pan	0.99

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
272C:							
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.65	Depth to cemented pan	0.65	Slope	1.00
						Depth to cemented pan	0.64
Frohling, calcareous substratum, dissected----------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
						Depth to cemented pan	0.90
275B:							
Munising, calcareous substratum---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	0.95	Depth to cemented pan	0.95	Depth to cemented pan	0.95
						Slope	0.12
Cookson----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Depth to bedrock	0.06
281E:							
Mongo, dissected----	95	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Slow water movement	1.00
282B:							
Furlong----------	50	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.97
						Slope	0.50
Shingleton----------	40	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.12
282D:							
Furlong----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Depth to bedrock	0.97
Shingleton----------	40	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
						Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Slope	0.37	Slope	0.37	Depth to bedrock	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
284B:							
Steuben----------	40	Very limited		Very limited		Somewhat limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.12
Blue Lake----------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Kalkaska----------	20	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
284D:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to cemented pan	0.99
Blue Lake----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Kalkaska----------	25	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
284E:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
Blue Lake----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Kalkaska----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
285B:							
Halfaday----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
286B:							
Greylock----------	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Cookson----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Depth to bedrock	0.06

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
287B:							
McMaster----------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
Davies----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
290A:							
Namur, very stony---	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.76	Large stones	0.76	Large stones	0.76
						Gravel content	0.22
Ruse, very stony----	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.76	Large stones	0.76	Large stones	0.76
						Gravel content	0.06
292B:							
Mashek, sandy substratum---------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
296D:							
Islandlake----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
McMillan----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
296E:							
Islandlake----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
McMillan----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
297B:							
Rubicon, severely burned----------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
						Gravel content	0.06
297D:							
Rubicon, severely burned----------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.26	Slope	0.26	Too sandy	1.00
						Gravel content	0.06

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
298B:							
Wurtsmith----------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
Deford----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
299F:							
Shelldrake----------	99	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
300F:							
Shelldrake----------	61	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Dune land----------	38	Not rated		Not rated		Not rated	
301F:							
Cookson, dissected--	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
Nykanen, dissected--	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
302B:							
Dillingham----------	45	Very limited		Very limited		Somewhat limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
						Slope	0.12
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
302D:							
Dillingham----------	52	Very limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to cemented pan	0.99
Kalkaska----------	45	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
302E:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302E:							
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
302F:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to cemented pan	0.99
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
303B:							
Kiva----------	55	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Trenary----------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.12
303D:							
Kiva----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Trenary----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
303E:							
Kiva----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Trenary----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
305B:							
Wurtsmith----------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
						Depth to saturated zone	0.39
Meehan----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
306C:							
Deerton, dissected--	35	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.84
Tokiahok, dissected	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to cemented pan	0.90

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
306C:							
Jeske, dissected----	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.99
						Slope	0.88
307B:							
Rubicon, very deep water table--------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
307D:							
Rubicon, very deep water table--------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
308B:							
Rubicon----------	55	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Sultz----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
308D:							
Rubicon----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Sultz----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
309B:							
Rubicon, deep water table----------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
309D:							
Rubicon, deep water table----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
310B:							
Kalkaska, burned----	90	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
310D:							
Kalkaska, burned----	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
310E:							
Kalkaska, burned----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Slope	1.00
		Too sandy	1.00	Slope	1.00	Too sandy	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311B:							
Kalkaska, very deep water table, burned	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
311D:							
Kalkaska, very deep water table, burned	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
312B:							
Islandlake, burned--	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
312D:							
Islandlake, burned--	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
313B:							
Kalkaska, deep water table, burned------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
314B:							
Blue Lake, very deep water table, burned	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Large stones	0.01
315B:							
Blue Lake, deep water table, burned	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Large stones	0.01
316B:							
Blue Lake, burned---	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
						Large stones	0.01
316D:							
Blue Lake, burned---	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Large stones	0.01
317B:							
Kalkaska, very deep water table--------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
317D:							
Kalkaska, very deep water table--------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00

Table 10a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318B:							
Islandlake, very deep water table---	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
318D:							
Islandlake, very deep water table---	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
319B:							
Islandlake----------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.12
319D:							
Islandlake----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
319E:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
319F:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
320B:							
Kalkaska, deep water table----------	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
321B:							
Kalkaska----------	50	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
Deerton----------	45	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.84
						Slope	0.12
321D:							
Kalkaska----------	50	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Too sandy	1.00
Deerton----------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Depth to bedrock	0.84

Table 10b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10:					
Beaches	100	Not rated		Not rated	
11C:					
Deer Park	90	Not limited		Somewhat limited	
				Droughty	0.85
11E:					
Deer Park	95	Somewhat limited		Very limited	
		Slope	0.08	Slope	1.00
				Droughty	0.85
11F:					
Deer Park	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.85
12B:					
Rubicon	90	Not limited		Somewhat limited	
				Droughty	0.93
12D:					
Rubicon	95	Not limited		Somewhat limited	
				Droughty	0.93
				Slope	0.37
12E:					
Rubicon	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.93
13B:					
Kalkaska	94	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
13D:					
Kalkaska	96	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
13E:					
Kalkaska	100	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
15A:					
Croswell	92	Not limited		Somewhat limited	
				Depth to saturated zone	0.19
				Droughty	0.19

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16A:					
Paquin	90	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
				Depth to saturated zone	0.19
17A:					
Au Gres	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	0.80
18:					
Kinross	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.04
19:					
Deford	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
21A:					
Ingalls	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
24B:					
Munising	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
25B:					
Munising	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
Yalmer	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Depth to cemented pan	0.90

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25D:					
Munising----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
				Slope	0.37
Yalmer----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Depth to cemented pan	0.90
				Slope	0.37
31D:					
Trenary----------	85	Not limited		Somewhat limited	
				Slope	0.16
33:					
Ensley----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
35B:					
Munising, calcareous substratum---------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.95
				Droughty	0.13
Yalmer, calcareous substratum---------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	0.97
				Depth to cemented pan	0.64
Frohling, calcareous substratum---------	20	Not limited		Somewhat limited	
				Depth to cemented pan	0.90
37B:					
Grand Sable---------	90	Not limited		Somewhat limited	
				Droughty	0.05
37E:					
Grand Sable---------	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.05

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
38B:					
Rhody	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to saturated zone	1.00
				Ponding	1.00
				Depth to bedrock	0.06
Towes	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.80
40B:					
Waiska, very stony	90	Somewhat limited		Very limited	
		Large stones	0.47	Droughty	1.00
42:					
Davies	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.55
46:					
Jacobsville, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.06
47C:					
Deerton	55	Not limited		Somewhat limited	
				Depth to bedrock	0.84
				Droughty	0.83
				Slope	0.01
Au Train	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Depth to bedrock	1.00
47E:					
Deerton	55	Somewhat limited		Very limited	
		Slope	0.50	Slope	1.00
				Depth to bedrock	0.84
				Droughty	0.83
Au Train	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Depth to bedrock	1.00
				Slope	0.63

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
48:					
Burt	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Droughty	1.00
				Depth to bedrock	1.00
				Ponding	1.00
49B:					
Cookson	90	Not limited		Somewhat limited	
				Depth to bedrock	0.06
51:					
Nahma	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.46
Ruse	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
				Ponding	1.00
				Droughty	0.93
52B:					
Summerville	85	Not limited		Very limited	
				Depth to bedrock	1.00
				Droughty	0.93
57:					
Carbondale	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Lupton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Tawas	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
58:					
Dawson	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58:					
Greenwood----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Loxley----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
59:					
Chippeny----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.65
Nahma----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.46
60:					
Histosols----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
		Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to saturated zone	1.00
Aquents----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
61:					
Pits----------	100	Not rated		Not rated	
62F:					
Udipsamments--------	50	Not rated		Not rated	
Udorthents----------	50	Not rated		Not rated	
64B:					
Kiva----------	90	Not limited		Somewhat limited	
				Droughty	0.32
64D:					
Kiva----------	90	Not limited		Somewhat limited	
				Droughty	0.32
				Slope	0.16

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65D:					
Jeske, bedrock terrace	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.99
				Droughty	0.94
Gongeau, bedrock terrace	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.54
Deerton, bedrock terrace	20	Not limited		Somewhat limited	
				Depth to bedrock	0.84
				Slope	0.84
				Droughty	0.83
65F:					
Jeske, bedrock terrace	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.99
				Droughty	0.94
Gongeau, bedrock terrace	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.54
Deerton, bedrock terrace	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to bedrock	0.84
				Droughty	0.83
66D:					
Ruse, bedrock terrace	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.48
Ensign, bedrock terrace	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.70

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
66D:					
Nykanen, bedrock terrace	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Depth to bedrock	1.00
				Droughty	0.90
				Slope	0.63
66F:					
Ruse, bedrock terrace	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.72
Ensign, bedrock terrace	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.70
Nykanen, bedrock terrace	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Slope	1.00
				Droughty	0.90
68:					
Pits, quarry	100	Not rated		Not rated	
69B:					
Escanaba	85	Not limited		Not limited	
71A:					
Evart	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Ponding	1.00
Sturgeon	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Depth to saturated zone	1.00
72E:					
Deerton, dissected	40	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Depth to bedrock	0.84
				Droughty	0.83

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72E:					
Tokiahok, dissected	30	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.95
				Depth to cemented pan	0.90
Trout Bay, dissected	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Slope	0.02	Slope	1.00
				Depth to bedrock	1.00
72F:					
Deerton, dissected--	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to bedrock	0.84
				Droughty	0.83
Tokiahok, dissected	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.95
				Depth to cemented pan	0.90
Trout Bay, dissected	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Organic matter content	1.00	Organic matter content	1.00
		Slope	0.50	Depth to saturated zone	1.00
				Depth to bedrock	1.00
76C:					
Garlic, dissected---	40	Not limited		Somewhat limited	
				Droughty	0.74
Blue Lake, dissected	30	Not limited		Somewhat limited	
				Droughty	0.23
Voelker, dissected--	20	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
76E:					
Garlic, dissected---	40	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.74
Blue Lake, dissected	30	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.23

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76E:					
Voelker, dissected--	20	Somewhat limited		Very limited	
		Slope	0.82	Depth to cemented pan	1.00
				Droughty	1.00
				Slope	1.00
76F:					
Garlic, dissected---	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.74
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.23
Voelker, dissected--	20	Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00
				Slope	1.00
				Droughty	1.00
77B:					
Garlic----------	40	Not limited		Somewhat limited	
				Droughty	0.74
Blue Lake----------	30	Not limited		Somewhat limited	
				Droughty	0.23
Voelker----------	20	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
77D:					
Garlic----------	40	Not limited		Somewhat limited	
				Droughty	0.74
				Slope	0.16
Blue Lake----------	30	Not limited		Somewhat limited	
				Droughty	0.23
				Slope	0.16
Voelker----------	20	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
				Slope	0.16
77E:					
Garlic----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.74
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.23

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77E:					
Voelker	20	Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00
				Slope	1.00
				Droughty	1.00
88:					
Cathro	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Ensley	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
93:					
Tawas	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Deford	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
95B:					
Liminga	90	Not limited		Somewhat limited	
				Droughty	0.25
104C:					
Fence, dissected	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.75
109D:					
Rousseau	50	Not limited		Somewhat limited	
				Droughty	0.84
				Slope	0.37
Dawson	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
109F:					
Rousseau	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.84

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
109F:					
Dawson	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
125B:					
Stutts	65	Not limited		Somewhat limited	
				Droughty	0.01
Kalkaska	35	Not limited		Somewhat limited	
				Droughty	0.72
125D:					
Stutts	65	Not limited		Somewhat limited	
				Slope	0.37
				Droughty	0.01
Kalkaska	25	Not limited		Somewhat limited	
				Droughty	0.72
				Slope	0.37
125E:					
Stutts	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.01
Kalkaska	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.72
135B:					
Munising, calcareous substratum	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.34
Ensley	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
145C:					
Munising, dissected, very stony	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Depth to cemented pan	0.99
				Droughty	0.95

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
145C:					
Yalmer, dissected, very stony---------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to cemented pan	0.90
146B:					
Munising, stony-----	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
Skanee, stony-------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00
				Droughty	1.00
147A:					
Skanee, very stony--	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Large stones	0.47	Depth to saturated zone	1.00
				Droughty	1.00
Gay, very stony-----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Large stones	0.47		
148B:					
Shoepac----------	70	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.75
Ensley----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
155A:					
Zeba, very stony----	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.32
				Depth to bedrock	0.20

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
155A:					
Jacobsville, very stony----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.06
157B:					
Reade----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.65
				Droughty	0.04
Nahma----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.46
158C:					
Munising, dissected, stony----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
Abbaye, dissected, stony----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.29
160B:					
Paquin----------	55	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
				Depth to saturated zone	0.19
Finch----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00
				Droughty	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
161B:					
Yellowdog, stony----	50	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	0.29
Buckroe, stony------	40	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	1.00
165B:					
Chocolay, very stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	0.71
Waiska, very stony--	30	Somewhat limited		Very limited	
		Large stones	0.47	Droughty	1.00
166:					
Skandia----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.80
167:					
Skandia, stony------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.80
Jacobsville, stony--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.06
170B:					
Chocolay, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	0.71
171B:					
Paavola, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to cemented pan	0.54

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
172D:					
Buckroe, very bouldery	70	Somewhat limited		Very limited	
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
				Slope	1.00
Rock outcrop	15	Not rated		Not rated	
172F:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
Rock outcrop	15	Not rated		Not rated	
176B:					
Croswell	50	Not limited		Somewhat limited	
				Depth to saturated zone	0.19
				Droughty	0.19
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.04
181E:					
Frohling, dissected, stony	60	Somewhat limited		Very limited	
		Slope	0.82	Depth to cemented pan	1.00
				Slope	1.00
				Droughty	0.54
Tokiahok, dissected, stony	30	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.95
				Depth to cemented pan	0.90
185B:					
McMaster	90	Not limited		Somewhat limited	
				Droughty	0.69
				Depth to saturated zone	0.19
186B:					
Chatham, stony	85	Not limited		Not limited	
186D:					
Chatham, stony	85	Not limited		Somewhat limited	
				Slope	0.37

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
187B:					
Reade----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.65
				Droughty	0.04
188B:					
Eben, stony---------	85	Somewhat limited		Very limited	
		Large stones	0.18	Large stones	1.00
				Droughty	0.89
				Gravel content	0.08
188D:					
Eben, stony---------	90	Somewhat limited		Very limited	
		Large stones	0.18	Large stones	1.00
				Droughty	0.89
				Slope	0.37
				Gravel content	0.08
188E:					
Eben, stony---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones	0.18	Large stones	1.00
				Droughty	0.89
				Gravel content	0.08
191B:					
Ruse----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
				Ponding	1.00
				Droughty	0.93
Ensign----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.77
197B:					
Shoepac----------	50	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.75
Trenary----------	40	Not limited		Not limited	
198B:					
Shoepac----------	60	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.75
Reade----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.65
				Droughty	0.04

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
200A:					
Charlevoix----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ensley----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
202B:					
Sauxhead, very stony	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
206B:					
Traunik----------	90	Not limited		Somewhat limited	
				Droughty	0.80
206D:					
Traunik----------	90	Not limited		Somewhat limited	
				Droughty	0.80
				Slope	0.16
211B:					
Munising----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.95
Abbaye----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.29
214B:					
Kalkaska----------	60	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
Blue Lake----------	30	Not limited		Somewhat limited	
				Droughty	0.23
214D:					
Kalkaska----------	55	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
Blue Lake----------	35	Not limited		Somewhat limited	
				Slope	0.37
				Droughty	0.23

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
214E:					
Kalkaska----------	55	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
Blue Lake----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.23
221B:					
Jeske----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.99
				Droughty	0.94
Au Train----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Depth to bedrock	1.00
Gongeau----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
				Ponding	1.00
				Droughty	0.54
225B:					
Cusino----------	95	Not limited		Somewhat limited	
				Droughty	0.92
225D:					
Cusino----------	95	Not limited		Somewhat limited	
				Droughty	0.92
				Slope	0.37
226B:					
Kalkaska----------	50	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
Cusino----------	45	Not limited		Somewhat limited	
				Droughty	0.92
226D:					
Kalkaska----------	50	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
Cusino----------	45	Not limited		Somewhat limited	
				Droughty	0.92
				Slope	0.37

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
226E:					
Kalkaska	50	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
Cusino	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.92
226F:					
Kalkaska	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
Cusino	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.92
227A:					
Halfaday	90	Not limited		Somewhat limited	
				Depth to saturated zone	0.19
				Droughty	0.17
232B:					
Shelldrake	90	Not limited		Somewhat limited	
				Droughty	0.98
233B:					
Abbaye, very stony	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Depth to bedrock	0.29
Zeba, very stony	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Large stones	0.32
				Depth to bedrock	0.20
234A:					
Levasseur, very stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
Burt, very stony	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Droughty	1.00
		Large stones	0.47	Depth to bedrock	1.00
				Ponding	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
235B:					
Sauxhead, very stony	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
Burt, very stony----	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Droughty	1.00
		Large stones	0.47	Depth to bedrock	1.00
				Ponding	1.00
236B:					
Waiska, extremely bouldery----------	85	Very limited		Very limited	
		Large stones	1.00	Droughty	1.00
236D:					
Waiska, extremely bouldery----------	85	Very limited		Very limited	
		Large stones	1.00	Droughty	1.00
				Slope	0.16
237B:					
Chatham----------	65	Not limited		Not limited	
Davies----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.55
239B:					
Longrie----------	50	Not limited		Somewhat limited	
				Depth to bedrock	0.06
Shingleton----------	40	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	1.00
240F:					
Trout Bay----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Slope	0.02	Depth to bedrock	1.00
				Slope	1.00
Gongeau----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	1.00
				Droughty	0.54

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
240F:					
Shingleton----------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	1.00
				Depth to bedrock	1.00
Rock outcrop--------	15	Not rated		Not rated	
241:					
Cathro----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Gay----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
242B:					
Kalkaska, severely burned----------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
242D:					
Kalkaska, severely burned----------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
242F:					
Kalkaska, severely burned----------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
243:					
Markey----------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
245B:					
Trout Bay----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
				Ponding	1.00
Lupton----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
245B:					
Gongeau	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
				Ponding	1.00
				Droughty	0.54
246B:					
Garlic	90	Not limited		Somewhat limited	
				Droughty	0.74
246D:					
Garlic	90	Not limited		Somewhat limited	
				Droughty	0.74
				Slope	0.37
246E:					
Garlic	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.74
248B:					
Escanaba	50	Not limited		Not limited	
Greylock	40	Not limited		Not limited	
248D:					
Escanaba	50	Not limited		Somewhat limited	
				Slope	0.37
Greylock	40	Not limited		Somewhat limited	
				Slope	0.37
248E:					
Escanaba	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
Greylock	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
249B:					
Sauxhead	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.47	Droughty	1.00
				Depth to bedrock	1.00
Skandia	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Depth to bedrock	0.80

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
250B:					
Chocolay, extremely stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	1.00	Droughty	1.00
				Depth to bedrock	0.71
Jacobsville, extremely stony	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	1.00	Ponding	1.00
		Ponding	1.00	Depth to bedrock	0.06
251B:					
Greylock	90	Not limited		Not limited	
251D:					
Greylock	85	Not limited		Somewhat limited	
				Slope	0.37
252A:					
Finch	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00
				Droughty	1.00
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.04
254C:					
Kalkaska, dissected	55	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
Blue Lake, dissected	35	Not limited		Somewhat limited	
				Droughty	0.23
254E:					
Kalkaska, dissected	55	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	0.82	Droughty	0.87
				Too sandy	0.50
Blue Lake, dissected	35	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.23
254F:					
Kalkaska, dissected	55	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
254F:					
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.23
255D:					
Wallace	95	Not limited		Very limited	
				Depth to cemented pan	1.00
				Droughty	1.00
				Slope	0.01
256B:					
Whitewash	95	Not limited		Somewhat limited	
				Droughty	0.01
266A:					
Spot	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Depth to saturated zone	1.00
				Droughty	1.00
				Ponding	1.00
Finch	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00
				Droughty	1.00
267A:					
Finch	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00
				Droughty	1.00
268C:					
Munising, calcareous substratum, dissected	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.34
Frohling, calcareous substratum, dissected	30	Not limited		Somewhat limited	
				Depth to cemented pan	0.90
Cookson, dissected	20	Not limited		Somewhat limited	
				Depth to bedrock	0.06

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
269E:					
Frohling, calcareous substratum, dissected----------	50	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Depth to cemented pan	0.90
Garlic, dissected---	20	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Droughty	0.74
Cookson, dissected--	20	Somewhat limited		Very limited	
		Slope	0.82	Slope	1.00
				Depth to bedrock	0.06
272C:					
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.99
				Droughty	0.34
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	0.97
				Depth to cemented pan	0.64
Frohling, calcareous substratum, dissected----------	20	Not limited		Somewhat limited	
				Depth to cemented pan	0.90
275B:					
Munising, calcareous substratum---------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	0.95
				Droughty	0.13
Cookson----------	40	Not limited		Somewhat limited	
				Depth to bedrock	0.06
281E:					
Mongo, dissected----	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
282B:					
Furlong----------	50	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	0.97
Shingleton----------	40	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	1.00
282D:					
Furlong----------	50	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	0.97
				Slope	0.37
Shingleton----------	40	Not limited		Very limited	
				Droughty	1.00
				Depth to bedrock	1.00
				Slope	0.37
284B:					
Steuben----------	40	Not limited		Very limited	
				Depth to cemented pan	0.99
				Droughty	0.57
Blue Lake----------	30	Not limited		Somewhat limited	
				Droughty	0.23
Kalkaska----------	20	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
284D:					
Steuben----------	40	Not limited		Very limited	
				Depth to cemented pan	0.99
				Droughty	0.57
				Slope	0.37
Blue Lake----------	25	Not limited		Somewhat limited	
				Slope	0.37
				Droughty	0.23
Kalkaska----------	25	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
284E:					
Steuben----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to cemented pan	0.99
				Droughty	0.57
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.23

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
284E:					
Kalkaska----------	20	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
285B:					
Halfaday----------	50	Not limited		Somewhat limited	
				Depth to saturated zone	0.19
				Droughty	0.17
Kinross----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.04
286B:					
Greylock----------	50	Not limited		Not limited	
Cookson----------	40	Not limited		Somewhat limited	
				Depth to bedrock	0.06
287B:					
McMaster----------	55	Not limited		Somewhat limited	
				Droughty	0.69
				Depth to saturated zone	0.19
Davies----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Droughty	0.55
290A:					
Namur, very stony---	50	Somewhat limited		Very limited	
		Large stones	0.76	Depth to bedrock	1.00
				Droughty	1.00
Ruse, very stony----	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to bedrock	1.00
		Large stones	0.76	Ponding	1.00
				Droughty	0.93
292B:					
Mashek, sandy substratum---------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
296D:					
Islandlake----------	55	Not limited		Somewhat limited	
				Droughty	0.20
				Slope	0.16
McMillan----------	35	Not limited		Somewhat limited	
				Droughty	0.20
				Slope	0.16
296E:					
Islandlake----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.60
McMillan----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.20
297B:					
Rubicon, severely burned----------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.90
				Too sandy	0.50
297D:					
Rubicon, severely burned----------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.90
				Too sandy	0.50
				Slope	0.26
298B:					
Wurtsmith----------	55	Not limited		Somewhat limited	
				Droughty	0.90
				Depth to saturated zone	0.19
Deford----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
299F:					
Shelldrake----------	99	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.98
300F:					
Shelldrake----------	61	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.98
Dune land----------	38	Not rated		Not rated	
301F:					
Cookson, dissected--	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to bedrock	0.06

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
301F:					
Nykanen, dissected--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Water erosion	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to bedrock	1.00
				Droughty	0.90
302B:					
Dillingham----------	45	Not limited		Very limited	
				Depth to cemented pan	0.99
				Droughty	0.69
Kalkaska----------	40	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
302D:					
Dillingham----------	52	Not limited		Very limited	
				Depth to cemented pan	0.99
				Droughty	0.98
				Slope	0.37
Kalkaska----------	45	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
302E:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to cemented pan	0.99
				Droughty	0.98
Kalkaska----------	40	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
302F:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Depth to cemented pan	0.99
				Droughty	0.98
Kalkaska----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
303B:					
Kiva----------	55	Not limited		Somewhat limited	
				Droughty	0.32
Trenary----------	30	Not limited		Not limited	

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
303D:					
Kiva----------	55	Not limited		Somewhat limited	
				Droughty	0.32
				Slope	0.16
Trenary----------	30	Not limited		Somewhat limited	
				Slope	0.16
303E:					
Kiva----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.32
Trenary----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
305B:					
Wurtsmith----------	55	Not limited		Somewhat limited	
				Droughty	0.90
				Depth to saturated zone	0.19
Meehan----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Droughty	0.93
306C:					
Deerton, dissected--	35	Not limited		Somewhat limited	
				Depth to bedrock	0.84
				Droughty	0.83
Tokiahok, dissected	30	Not limited		Somewhat limited	
				Droughty	0.95
				Depth to cemented pan	0.90
				Slope	0.16
Jeske, dissected----	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to bedrock	0.99
				Droughty	0.94
307B:					
Rubicon, very deep water table--------	95	Not limited		Somewhat limited	
				Droughty	0.93
307D:					
Rubicon, very deep water table--------	95	Not limited		Somewhat limited	
				Droughty	0.93
				Slope	0.37

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
308B:					
Rubicon----------	55	Not limited		Somewhat limited	
				Droughty	0.93
Sultz----------	40	Not limited		Somewhat limited	
				Droughty	0.86
308D:					
Rubicon----------	55	Not limited		Somewhat limited	
				Droughty	0.93
				Slope	0.37
Sultz----------	40	Not limited		Somewhat limited	
				Droughty	0.86
				Slope	0.37
309B:					
Rubicon, deep water table----------	95	Not limited		Somewhat limited	
				Droughty	0.93
309D:					
Rubicon, deep water table----------	95	Not limited		Somewhat limited	
				Droughty	0.93
				Slope	0.37
310B:					
Kalkaska, burned----	90	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
310D:					
Kalkaska, burned----	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
310E:					
Kalkaska, burned----	95	Very limited		Very limited	
		Too sandy	1.00	Slope	1.00
		Slope	1.00	Droughty	0.87
				Too sandy	0.50
311B:					
Kalkaska, very deep water table, burned	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
311D:					
Kalkaska, very deep water table, burned	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
312B:					
Islandlake, burned--	95	Not limited		Somewhat limited	
				Droughty	0.60

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
312D:					
Islandlake, burned--	95	Not limited		Somewhat limited	
				Droughty	0.60
				Slope	0.16
313B:					
Kalkaska, deep water table, burned------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
314B:					
Blue Lake, very deep water table, burned	95	Not limited		Somewhat limited	
				Droughty	0.13
				Large stones	0.01
315B:					
Blue Lake, deep water table, burned	95	Not limited		Somewhat limited	
				Droughty	0.13
				Large stones	0.01
316B:					
Blue Lake, burned---	95	Not limited		Somewhat limited	
				Droughty	0.13
				Large stones	0.01
316D:					
Blue Lake, burned---	95	Not limited		Somewhat limited	
				Slope	0.37
				Droughty	0.13
				Large stones	0.01
317B:					
Kalkaska, very deep water table--------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
317D:					
Kalkaska, very deep water table--------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
318B:					
Islandlake, very deep water table---	95	Not limited		Somewhat limited	
				Droughty	0.60
318D:					
Islandlake, very deep water table---	95	Not limited		Somewhat limited	
				Droughty	0.20
				Slope	0.16

Table 10b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
319B:					
Islandlake----------	95	Not limited		Somewhat limited	
				Droughty	0.60
319D:					
Islandlake----------	95	Not limited		Somewhat limited	
				Droughty	0.60
				Slope	0.16
319E:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.60
319F:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Droughty	0.20
320B:					
Kalkaska, deep water table----------	95	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
321B:					
Kalkaska----------	50	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
Deerton----------	45	Not limited		Somewhat limited	
				Depth to bedrock	0.84
				Droughty	0.83
321D:					
Kalkaska----------	50	Very limited		Somewhat limited	
		Too sandy	1.00	Droughty	0.87
				Too sandy	0.50
				Slope	0.37
Deerton----------	45	Not limited		Somewhat limited	
				Depth to bedrock	0.84
				Droughty	0.83
				Slope	0.37

Table 11.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
10. Beaches										
11C: Deer Park	Very poor.	Poor	Poor	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
11E: Deer Park	Very poor.	Poor	Poor	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
11F: Deer Park	Very poor.	Poor	Poor	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
12B: Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
12D: Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
12E: Rubicon	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
13B: Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
13D: Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
13E: Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
15A: Croswell	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
16A: Paquin	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
17A: Au Gres	Poor	Fair	Good	Good	Good	Poor	Fair	Fair	Good	Poor.
18: Kinross	Very poor.	Poor	Poor	Fair	Fair	Good	Good	Very poor.	Fair	Good.
19: Deford	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
21A:										
Ingalls	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
24B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
25B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Yalmer	Poor	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
25D:										
Munising	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Yalmer	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
31D:										
Trenary	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
33:										
Ensley	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
35B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Yalmer	Fair	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
Frohling	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
37B:										
Grand Sable	Poor	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
37E:										
Grand Sable	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
38B:										
Rhody	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Towes	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
40B:										
Waiska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
42:										
Davies	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
46:										
Jacobsville	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
47C:										
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Au Train	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
47E:										
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Au Train	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
48:										
Burt	Poor	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Poor.
49B:										
Cookson	Good	Good	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
51:										
Nahma	Very poor.	Poor	Poor	Poor	Fair	Good	Good	Poor	Poor	Good.
Ruse	Poor	Poor	Fair	Poor	Fair	Good	Poor	Poor	Fair	Fair.
52B:										
Summerville	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
57:										
Carbondale	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
Lupton	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
Tawas	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
58:										
Dawson	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Greenwood	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Loxley	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
59:										
Chippeny	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Nahma	Very poor.	Poor	Poor	Poor	Fair	Good	Good	Poor	Poor	Good.
60:										
Histosols	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Aquents	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
61. Pits										
62F. Udipsamments and Udorthents										
64B:										
Kiva	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
64D:										
Kiva	Fair	Fair	Fair	Good	Good	Poor	Poor	Good	Good	Very poor.
65D:										
Jeske	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
Gongeau	Very poor.	Poor	Fair	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
65F:										
Jeske	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
Gongeau	Very poor.	Poor	Fair	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
66D:										
Ruse	Very poor.	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
Ensign	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
Nykanen	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
66F:										
Ruse	Very poor.	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
Ensign	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
Nykanen	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
68. Pits, quarry										
69B:										
Escanaba	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
71A:										
Evart	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
Sturgeon	Very poor.	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair.
72E:										
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Tokiahok	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Trout Bay	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
72F:										
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Tokiahok	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Trout bay	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
76C:										
Garlic	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Blue Lake	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Voelker	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
76E:										
Garlic	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Voelker	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
76F:										
Garlic	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Voelker	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
77B:										
Garlic	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
77B:										
Blue Lake---------	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Voelker----------	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
77D:										
Garlic----------	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Blue Lake---------	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Voelker----------	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
77E:										
Garlic----------	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Blue Lake---------	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Voelker----------	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
88:										
Cathro----------	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Ensley----------	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
93:										
Tawas----------	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Deford----------	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
95B:										
Liminga----------	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
104C:										
Fence----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
109D:										
Rousseau----------	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Dawson----------	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
109F:										
Rousseau----------	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Dawson----------	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
125B:										
Stutts	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
125D:										
Stutts	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
125E:										
Stutts	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
135B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Ensley	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
145C:										
Munising	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Yalmer	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
146B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Skanee	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Poor	Fair.
147A:										
Skanee	Very poor.	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Fair.
Gay	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
148B:										
Shoepac	Fair	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
Ensley	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
155A:										
Zeba	Fair	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair.
Jacobsville	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
157B:										
Reade	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Nahma	Very poor.	Poor	Poor	Poor	Fair	Good	Good	Poor	Poor	Good.
158C:										
Munising	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Abbaye	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
160B:										
Paquin	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Finch	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
161B:										
Yellowdog	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Buckroe	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
165B:										
Chocolay	Very poor.	Poor	Good	Fair	Good	Poor	Poor	Fair	Fair	Poor.
Waiska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
166:										
Skandia	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
167:										
Skandia	Very poor.	Very poor.	Poor	Poor	Poor	Good	Fair	Very poor.	Poor	Fair.
Jacobsville	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
170B:										
Chocolay	Very poor.	Poor	Good	Fair	Good	Poor	Poor	Fair	Fair	Poor.
171B:										
Paavola	Very poor.	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.
172D:										
Buckroe	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
172F:										
Buckroe	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
176B:										
Croswell	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Very poor.
Kinross	Very poor.	Poor	Poor	Fair	Fair	Good	Good	Very poor.	Fair	Good.
181E:										
Frohling	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Tokiahok	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
185B:										
McMaster	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
186B:										
Chatham	Poor	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
186D:										
Chatham	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
187B:										
Reade	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
188B:										
Eben	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
188D:										
Eben	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
188E:										
Eben	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
191B:										
Ruse	Poor	Poor	Fair	Poor	Fair	Good	Poor	Poor	Fair	Fair.
Ensign	Poor	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Poor.
197B:										
Shoepac	Fair	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
Trenary	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
198B:										
Shoepac	Fair	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
Reade	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
200A:										
Charlevoix	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Ensley	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
202B:										
Sauxhead	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
206B:										
Traunik	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
206D:										
Traunik	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
211B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Abbaye	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
214B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
214D:										
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blue Lake	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
214E:										
Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
221B:										
Jeske	Poor	Poor	Fair	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
Au Train	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Gongeau	Very poor.	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Fair.
225B:										
Cusino	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
225D:										
Cusino	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
226B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Cusino	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
226D:										
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Cusino	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
226E:										
Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Cusino	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
226F:										
Kalkaska	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Cusino	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
227A:										
Halfaday	Poor	Poor	Fair	Good	Good	Poor	Poor	Poor	Good	Poor.
232B:										
Shelldrake	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
233B:										
Abbaye	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Zeba	Very poor.	Very poor.	Good	Good	Good	Fair	Fair	Poor	Good	Fair.
234A:										
Levasseur	Very poor.	Very poor.	Fair	Poor	Fair	Poor	Fair	Poor	Poor	Poor.
Burt	Very poor.	Very poor.	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Poor.
235B:										
Sauxhead	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Burt	Very poor.	Very poor.	Fair	Poor	Fair	Fair	Poor	Poor	Poor	Poor.
236B:										
Waiska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
236D:										
Waiska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
237B:										
Chatham	Fair	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
Davies	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
239B:										
Longrie	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Shingleton	Very poor.	Poor	Poor	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
240F:										
Trout Bay	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Gongeau	Very poor.	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
Shingleton	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.										
241:										
Cathro	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Gay	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
242B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
242D:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
242F:										
Kalkaska	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
243:										
Markey	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Very poor.	Very poor.	Good.
245B:										
Trout Bay	Very poor.	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair.
Lupton	Very poor.	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair.
Gongeau	Very poor.	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Fair.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
246B:										
Garlic	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
246D:										
Garlic	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
246E:										
Garlic	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
248B:										
Escanaba	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Greylock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
248D:										
Escanaba	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Greylock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
248E:										
Escanaba	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Greylock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
249B:										
Sauxhead	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Skandia	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
250B:										
Chocolay	Very poor.	Very poor.	Fair	Good	Good	Poor	Poor	Poor	Fair	Poor.
Jacobsville	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
251B:										
Greylock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
251D:										
Greylock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
252A:										
Finch	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
Kinross	Very poor.	Poor	Poor	Fair	Fair	Good	Good	Very poor.	Fair	Good.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
254C:										
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
254E:										
Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
254F:										
Kalkaska	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
255D:										
Wallace	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
256B:										
Whitewash	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
266A:										
Spot	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Finch	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
267A:										
Finch	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
268C:										
Munising	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Frohling	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cookson	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
269E:										
Frohling	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Garlic	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Cookson	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
272C:										
Munising	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Yalmer	Fair	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
Frohling	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
275B:										
Munising	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Cookson	Good	Good	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
281E:										
Mongo	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
282B:										
Furlong	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Shingleton	Very poor.	Poor	Poor	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
282D:										
Furlong	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Shingleton	Poor	Poor	Poor	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
284B:										
Steuben	Fair	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
284D:										
Steuben	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blue Lake	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
284E:										
Steuben	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blue Lake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Kalkaska	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
285B:										
Halfaday	Poor	Poor	Fair	Good	Good	Poor	Poor	Poor	Good	Poor.
Kinross	Very poor.	Poor	Poor	Fair	Fair	Good	Good	Very poor.	Fair	Good.
286B:										
Greylock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Cookson	Good	Good	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
287B:										
McMaster	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Davies	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
290A:										
Namur	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Ruse	Poor	Poor	Fair	Poor	Fair	Good	Poor	Poor	Fair	Fair.
292B:										
Mashek	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
296D:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
McMillan	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
296E:										
Islandlake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
McMillan	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
297B:										
Rubicon	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
297D:										
Rubicon	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
298B:										
Wurtsmith	Poor	Poor	Good	Fair	Good	Poor	Very poor.	Fair	Fair	Very poor.
Deford	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
299F:										
Shelldrake	Very poor.	Very poor.	Poor	Poor	Fair	Very poor.	Very poor.	Very poor.	Poor	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
300F:										
Shelldrake	Very poor.	Very poor.	Poor	Poor	Fair	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Dune land	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
301F:										
Cookson	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Nykanen	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
302B:										
Dillingham	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
302D:										
Dillingham	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
302E:										
Dillingham	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
302F:										
Dillingham	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kalkaska	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
303B:										
Kiva	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Trenary	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
303D:										
Kiva	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Trenary	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
303E:										
Kiva	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Trenary	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
305B:										
Wurtsmith	Poor	Poor	Good	Fair	Good	Poor	Very poor.	Fair	Fair	Very poor.
Meehan	Poor	Poor	Good	Fair	Good	Fair	Fair	Fair	Fair	Fair.
306C:										
Deerton	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Tokiahok	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Jeske	Poor	Poor	Fair	Poor	Fair	Poor	Poor	Poor	Poor	Poor.
307B:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
307D:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
308B:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Sultz	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
308D:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Sultz	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
309B:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
309D:										
Rubicon	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
310B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
310D:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
310E:										
Kalkaska	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
311B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
311D:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
312B:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
312D:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
313B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
314B:										
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
315B:										
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
316B:										
Blue Lake	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
316D:										
Blue Lake	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
317B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
317D:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
318B:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
318D:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
319B:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
319D:										
Islandlake	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
319E:										
Islandlake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
319F:										
Islandlake	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
320B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
321B:										
Kalkaska	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Deerton	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
321D:										
Kalkaska	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Deerton	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the 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
10:							
Beaches	100	Not rated		Not rated		Not rated	
11C:							
Deer Park	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
11E:							
Deer Park	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
11F:							
Deer Park	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12B:							
Rubicon	90	Not limited		Not limited		Not limited	
12D:							
Rubicon	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
12E:							
Rubicon	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
13B:							
Kalkaska	94	Not limited		Not limited		Not limited	
13D:							
Kalkaska	96	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
13E:							
Kalkaska	100	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
15A:							
Croswell	92	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
16A:							
Paquin	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.39	Depth to thin cemented pan	1.00	Depth to saturated zone	0.39
17A:							
Au Gres	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12a.--Building Site Development--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
18:							
Kinross	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
19:							
Deford	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
21A:							
Ingalls	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
24B:							
Munising	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
25B:							
Munising	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
Yalmer	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	0.90		
25D:							
Munising	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to thick cemented pan	0.99
Yalmer	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Depth to thin cemented pan	0.90	Slope	1.00
				Slope	0.37		
31D:							
Trenary	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Shrink-swell	0.01			Shrink-swell	0.01

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
33:							
Ensley	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
35B:							
Munising, calcareous substratum	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.95	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.95
Yalmer, calcareous substratum	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.65	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.65
Frohling, calcareous substratum	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90
						Slope	0.12
37B:							
Grand Sable	90	Not limited		Not limited		Not limited	
37E:							
Grand Sable	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38B:							
Rhody	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
				Depth to hard bedrock	0.99		
				Depth to soft bedrock	0.06		
Towes	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
				Depth to soft bedrock	0.79		
40B:							
Waiska, very stony	90	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--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
42:							
Davies	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14	Large stones	0.14
46:							
Jacobsville, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Ponding	1.00	Depth to hard bedrock	0.06
47C:							
Deerton	55	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.01	Depth to soft bedrock	0.84	Depth to hard bedrock	0.01
				Slope	0.01		
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to soft bedrock	0.50	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.29	Depth to soft bedrock	1.00	Depth to hard bedrock	0.29
47E:							
Deerton	55	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Slope	1.00	Depth to hard bedrock	0.01
				Depth to soft bedrock	0.84		
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Slope	0.63	Depth to hard bedrock	0.29
48:							
Burt	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 12a.--Building Site Development--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
49B:							
Cookson----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
51:							
Nahma----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.46	Ponding	1.00	Depth to hard bedrock	0.46
Ruse----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
52B:							
Summerville---------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
57:							
Carbondale----------	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Lupton----------	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Tawas----------	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00
58:							
Dawson----------	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00

Table 12a.--Building Site Development--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
58:							
Greenwood	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Loxley	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
59:							
Chippeny	55	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Depth to hard bedrock	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.64			Depth to hard bedrock	0.64
Nahma	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.46	Ponding	1.00	Depth to hard bedrock	0.46
60:							
Histosols	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
Aquents	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
61:							
Pits	100	Not rated		Not rated		Not rated	
62F:							
Udipsamments	50	Not rated		Not rated		Not rated	
Udorthents	50	Not rated		Not rated		Not rated	
64B:							
Kiva	90	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
64D:							
Kiva----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
65D:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
				Depth to soft bedrock	0.99		
Gongeau, bedrock terrace----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.54
Deerton, bedrock terrace----------	20	Somewhat limited		Very limited		Very limited	
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Depth to soft bedrock	0.84	Depth to hard bedrock	0.01
				Slope	0.84		
65F:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
				Depth to soft bedrock	0.99		
Gongeau, bedrock terrace----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.54
Deerton, bedrock terrace----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard	0.01	Slope	1.00	Depth to hard bedrock	0.01
				Depth to soft bedrock	0.84		

Table 12a.--Building Site Development--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
66D:							
Ruse, bedrock terrace	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Slope	0.63	Depth to hard bedrock	0.84
66F:							
Ruse, bedrock terrace	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.84	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Depth to hard bedrock	0.84

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
68:							
Pits, quarry--------	100	Not rated		Not rated		Not rated	
69B:							
Escanaba----------	85	Not limited		Not limited		Not limited	
71A:							
Evart----------	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Sturgeon----------	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
72E:							
Deerton, dissected--	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Slope	1.00	Depth to hard bedrock	0.01
				Depth to soft bedrock	0.84		
Tokiahok, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Depth to thick cemented pan	0.90	Slope	1.00	Depth to thick cemented pan	0.90
Trout Bay, dissected	15	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Subsidence	1.00
		Organic matter content	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Organic matter content	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
72F:							
Deerton, dissected--	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
				Depth to soft bedrock	0.84		
Tokiahok, dissected	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90

Table 12a.--Building Site Development--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
72F:							
Trout Bay, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Depth to soft bedrock	0.50	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
76C:							
Garlic, dissected	40	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Blue Lake, dissected	30	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Voelker, dissected	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
						Slope	0.88
76E:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thin cemented pan	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Slope	1.00	Depth to thin cemented pan	1.00
76F:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
77B:							
Garlic	40	Not limited		Not limited		Not limited	
Blue Lake	30	Not limited		Not limited		Not limited	
Voelker	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
77D:							
Garlic	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Blue Lake	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Voelker	20	Somewhat limited		Very limited		Very limited	
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
77E:							
Garlic	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Voelker	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
88:							
Cathro	55	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00
Ensley	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
93:							
Tawas	70	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00
Deford	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
95B:							
Liminga	90	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--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
104C:							
Fence, dissected----	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.78			Slope	0.88
						Shrink-swell	0.78
109D:							
Rousseau----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Dawson----------	45	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00
109F:							
Rousseau----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Dawson----------	40	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00
125B:							
Stutts----------	65	Not limited		Not limited		Not limited	
Kalkaska----------	35	Not limited		Not limited		Not limited	
125D:							
Stutts----------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Kalkaska----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
125E:							
Stutts----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Kalkaska----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
135B:							
Munising, calcareous substratum---------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99

Table 12a.--Building Site Development--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
135B:							
Ensley----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
145C:							
Munising, dissected, very stony---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.88
Yalmer, dissected, very stony---------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	0.90	Slope	0.88
146B:							
Munising, stony-----	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
Skanee, stony-------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
147A:							
Skanee, very stony--	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
Gay, very stony-----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
148B:							
Shoepac----------	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Ensley----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 12a.--Building Site Development--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
155A:							
Zeba, very stony----	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
Jacobsville, very stony----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Ponding	1.00	Depth to hard bedrock	0.06
157B:							
Reade----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
Nahma----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.46	Ponding	1.00	Depth to hard bedrock	0.46
158C:							
Munising, dissected, stony----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.50
Abbaye, dissected, stony----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Slope	0.50
						Depth to hard bedrock	0.29
160B:							
Paquin----------	55	Somewhat limited		Very limited		Somewhat limited	
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.39	Depth to thin cemented pan	1.00	Depth to saturated zone	0.39
Finch----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
161B:							
Yellowdog, stony----	50	Somewhat limited		Very limited		Somewhat limited	
		Large stones	0.50	Depth to hard bedrock	1.00	Large stones	0.50
		Depth to hard bedrock	0.29	Large stones	0.50	Depth to hard bedrock	0.29
Buckroe, stony------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
165B:							
Chocolay, very stony	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Depth to hard bedrock	1.00	Large stones	0.95
		Depth to hard bedrock	0.71	Large stones	0.95	Depth to hard bedrock	0.71
Waiska, very stony--	30	Not limited		Not limited		Not limited	
166:							
Skandia----------	85	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Ponding	1.00	Depth to hard bedrock	0.35
167:							
Skandia, stony------	55	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Ponding	1.00	Depth to hard bedrock	0.35
Jacobsville, stony--	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Ponding	1.00	Depth to hard bedrock	0.06
170B:							
Chocolay, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Depth to hard bedrock	1.00	Large stones	0.95
		Depth to hard bedrock	0.71	Large stones	0.95	Depth to hard bedrock	0.71

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
171B:							
Paavola, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.54	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.54
172D:							
Buckroe, very bouldery	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
172F:							
Buckroe, very bouldery	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
176B:							
Croswell	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Kinross	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
181E:							
Frohling, dissected, stony	60	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to thick cemented pan	1.00
Tokiahok, dissected, stony	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Depth to thick cemented pan	0.90	Slope	1.00	Depth to thick cemented pan	0.90
185B:							
McMaster	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
186B:							
Chatham, stony	85	Not limited		Not limited		Not limited	
186D:							
Chatham, stony	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
187B:							
Reade	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
188B:							
Eben, stony	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones	0.68	Large stones	0.68	Large stones	0.68
188D:							
Eben, stony	90	Somewhat limited		Somewhat limited		Very limited	
		Large stones	0.68	Large stones	0.68	Slope	1.00
		Slope	0.37	Slope	0.37	Large stones	0.68
188E:							
Eben, stony	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.68	Large stones	0.68	Large stones	0.68
191B:							
Ruse	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ensign	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Organic matter content	1.00			Organic matter content	1.00
197B:							
Shoepac	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Trenary	40	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.01			Shrink-swell	0.01
198B:							
Shoepac	60	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Reade	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64

Table 12a.--Building Site Development--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
200A:							
Charlevoix----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ensley----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
202B:							
Sauxhead, very stony	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
206B:							
Traunik----------	90	Not limited		Not limited		Not limited	
206D:							
Traunik----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
211B:							
Munising----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
Abbaye----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
214B:							
Kalkaska----------	60	Not limited		Not limited		Not limited	
Blue Lake----------	30	Not limited		Not limited		Not limited	
214D:							
Kalkaska----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Blue Lake----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
214E:							
Kalkaska----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12a.--Building Site Development--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
221B:							
Jeske	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
				Depth to soft bedrock	0.99		
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to soft bedrock	0.50	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.29	Depth to soft bedrock	1.00	Depth to hard bedrock	0.29
Gongeau	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.54	Depth to soft bedrock	1.00	Ponding	1.00
		Depth to soft bedrock	0.50	Ponding	1.00	Depth to hard bedrock	0.54
225B:							
Cusino	95	Not limited		Not limited		Not limited	
225D:							
Cusino	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
226B:							
Kalkaska	50	Not limited		Not limited		Not limited	
Cusino	45	Not limited		Not limited		Not limited	
226D:							
Kalkaska	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Cusino	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
226E:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cusino	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
226F:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cusino	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
227A:							
Halfaday----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
232B:							
Shelldrake----------	90	Not limited		Not limited		Not limited	
233B:							
Abbaye, very stony--	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
Zeba, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
234A:							
Levasseur, very stony----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Large stones	0.85	Large stones	0.85	Large stones	0.85
Burt, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
235B:							
Sauxhead, very stony	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Burt, very stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
236B:							
Waiska, extremely bouldery----------	85	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
236D:							
Waiska, extremely bouldery	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
237B:							
Chatham	65	Not limited		Not limited		Not limited	
Davies	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14	Large stones	0.14
239B:							
Longrie	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
Shingleton	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
240F:							
Trout Bay	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Slope	1.00
Gongeau	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.54
						Slope	0.12
Shingleton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
241:							
Cathro	55	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Ponding	1.00	Organic matter content	1.00
		Ponding	1.00			Ponding	1.00

Table 12a.--Building Site Development--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
241:							
Gay	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
242B:							
Kalkaska, severely burned	95	Not limited		Not limited		Not limited	
242D:							
Kalkaska, severely burned	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
242F:							
Kalkaska, severely burned	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
243:							
Markey	95	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
245B:							
Trout Bay	40	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Ponding	1.00
Lupton	30	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Gongeau	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.54	Depth to soft bedrock	1.00	Ponding	1.00
		Depth to soft bedrock	0.50	Ponding	1.00	Depth to hard bedrock	0.54
246B:							
Garlic	90	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
246D:							
Garlic	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
246E:							
Garlic	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
248B:							
Escanaba	50	Not limited		Not limited		Not limited	
Greylock	40	Not limited		Not limited		Not limited	
248D:							
Escanaba	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Greylock	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
248E:							
Escanaba	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Greylock	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
249B:							
Sauxhead	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Skandia	35	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Ponding	1.00	Depth to hard bedrock	0.35
250B:							
Chocolay, extremely stony	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Depth to hard bedrock	1.00	Large stones	0.95
		Depth to hard bedrock	0.71	Large stones	0.95	Depth to hard bedrock	0.71

Table 12a.--Building Site Development--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
250B:							
Jacobsville, extremely stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to hard bedrock	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Ponding	1.00	Depth to hard bedrock	0.06
251B:							
Greylock----------	90	Not limited		Not limited		Not limited	
251D:							
Greylock----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
252A:							
Finch----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
254C:							
Kalkaska, dissected	55	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Blue Lake, dissected	35	Not limited		Not limited		Somewhat limited	
						Slope	0.88
254E:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
254F:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
255D:							
Wallace----------	95	Somewhat limited		Very limited		Very limited	
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	0.01	Slope	0.01	Slope	1.00
256B:							
Whitewash----------	95	Not limited		Not limited		Not limited	

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
266A:							
Spot----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Organic matter content	1.00	Ponding	1.00	Ponding	1.00
		Depth to thin cemented pan	0.50			Organic matter content	1.00
Finch----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
267A:							
Finch----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
268C:							
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.50
Frohling, calcareous substratum, dissected----------	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90
						Slope	0.50
Cookson, dissected--	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Slope	0.50
						Depth to hard bedrock	0.06
269E:							
Frohling, calcareous substratum, dissected----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Depth to thick cemented pan	0.90	Slope	1.00	Depth to thick cemented pan	0.90
Garlic, dissected---	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cookson, dissected--	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06

Table 12a.--Building Site Development--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
272C:							
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.50
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.65	Depth to thick cemented pan	1.00	Slope	0.88
						Depth to thick cemented pan	0.65
Frohling, calcareous substratum, dissected----------	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90
						Slope	0.88
275B:							
Munising, calcareous substratum---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.95	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.95
Cookson----------	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
281E:							
Mongo, dissected----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
282B:							
Furlong----------	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00	Depth to hard bedrock	0.97
Shingleton----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
282D:							
Furlong----------	50	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to hard bedrock	0.97

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
282D:							
Shingleton----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
284B:							
Steuben----------	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
Blue Lake----------	30	Not limited		Not limited		Not limited	
Kalkaska----------	20	Not limited		Not limited		Not limited	
284D:							
Steuben----------	40	Somewhat limited		Very limited		Very limited	
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to thick cemented pan	0.99
Blue Lake----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Kalkaska----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
284E:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
Blue Lake----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Kalkaska----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
285B:							
Halfaday----------	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
286B:							
Greylock----------	50	Not limited		Not limited		Not limited	
Cookson----------	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
287B:							
McMaster	55	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Davies	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14	Large stones	0.14
290A:							
Namur, very stony	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Ruse, very stony	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
292B:							
Mashek, sandy substratum	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
296D:							
Islandlake	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
McMillan	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
296E:							
Islandlake	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
McMillan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
297B:							
Rubicon, severely burned	95	Not limited		Not limited		Not limited	
297D:							
Rubicon, severely burned	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.26	Slope	0.26	Slope	1.00
298B:							
Wurtsmith	55	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
298B:							
Deford	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
299F:							
Shelldrake	99	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
300F:							
Shelldrake	61	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Dune land	38	Not rated		Not rated		Not rated	
301F:							
Cookson, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
Nykanen, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.84
302B:							
Dillingham	45	Not limited		Somewhat limited		Not limited	
				Depth to thin cemented pan	0.99		
Kalkaska	40	Not limited		Not limited		Not limited	
302D:							
Dillingham	52	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Depth to thin cemented pan	0.99	Slope	1.00
				Slope	0.37		
Kalkaska	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
302E:							
Dillingham	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to thin cemented pan	0.99		
Kalkaska	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
302F:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to thin cemented pan	0.99		
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
303B:							
Kiva----------	55	Not limited		Not limited		Not limited	
Trenary----------	30	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.01			Shrink-swell	0.01
303D:							
Kiva----------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Trenary----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Shrink-swell	0.01			Shrink-swell	0.01
303E:							
Kiva----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Trenary----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.01			Shrink-swell	0.01
305B:							
Wurtsmith----------	55	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Meehan----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
306C:							
Deerton, dissected--	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Slope	0.50
				Depth to soft bedrock	0.84	Depth to hard bedrock	0.01
Tokiahok, dissected	30	Somewhat limited		Very limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to thick cemented pan	0.90
Jeske, dissected----	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
				Depth to soft bedrock	0.99	Slope	0.12

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
307B:							
Rubicon, very deep water table	95	Not limited		Not limited		Not limited	
307D:							
Rubicon, very deep water table	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
308B:							
Rubicon	55	Not limited		Not limited		Not limited	
Sultz	40	Not limited		Not limited		Not limited	
308D:							
Rubicon	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Sultz	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
309B:							
Rubicon, deep water table	95	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.47		
309D:							
Rubicon, deep water table	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Depth to saturated zone	0.47	Slope	1.00
				Slope	0.37		
310B:							
Kalkaska, burned	90	Not limited		Not limited		Not limited	
310D:							
Kalkaska, burned	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
310E:							
Kalkaska, burned	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
311B:							
Kalkaska, very deep water table, burned	95	Not limited		Not limited		Not limited	
311D:							
Kalkaska, very deep water table, burned	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
312B:							
Islandlake, burned	95	Not limited		Not limited		Not limited	
312D:							
Islandlake, burned	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00

Table 12a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
313B:							
Kalkaska, deep water table, burned------	95	Not limited		Not limited		Not limited	
314B:							
Blue Lake, very deep water table, burned	95	Not limited		Not limited		Not limited	
315B:							
Blue Lake, deep water table, burned	95	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.47		
316B:							
Blue Lake, burned---	95	Not limited		Not limited		Not limited	
316D:							
Blue Lake, burned---	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
317B:							
Kalkaska, very deep water table--------	95	Not limited		Not limited		Not limited	
317D:							
Kalkaska, very deep water table--------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
318B:							
Islandlake, very deep water table---	95	Not limited		Not limited		Not limited	
318D:							
Islandlake, very deep water table---	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
319B:							
Islandlake----------	95	Not limited		Not limited		Not limited	
319D:							
Islandlake----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
319E:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
319F:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
320B:							
Kalkaska, deep water table----------	95	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.47		

Table 12a.--Building Site Development--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
321B:							
Kalkaska----------	50	Not limited		Not limited		Not limited	
Deerton----------	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
				Depth to soft bedrock	0.84		
321D:							
Kalkaska----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Deerton----------	45	Somewhat limited		Very limited		Very limited	
		Slope	0.37	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Depth to soft bedrock	0.84	Depth to hard bedrock	0.01
				Slope	0.37		

Table 12b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the 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	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10:					
Beaches	100	Not rated		Not rated	
11C:					
Deer Park	90	Not limited		Very limited	
				Cutbanks cave	1.00
11E:					
Deer Park	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
11F:					
Deer Park	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
12B:					
Rubicon	90	Not limited		Very limited	
				Cutbanks cave	1.00
12D:					
Rubicon	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
12E:					
Rubicon	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
13B:					
Kalkaska	94	Not limited		Very limited	
				Cutbanks cave	1.00
13D:					
Kalkaska	96	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
13E:					
Kalkaska	100	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
15A:					
Croswell	92	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16A:					
Paquin	90	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
17A:					
Au Gres	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
18:					
Kinross	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
19:					
Deford	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
21A:					
Ingalls	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
24B:					
Munising	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
25B:					
Munising	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
Yalmer	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Depth to thin cemented pan	0.90
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25D:					
Munising----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
		Slope	0.37	Slope	0.37
				Cutbanks cave	0.10
Yalmer----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Cutbanks cave	1.00
				Depth to thin cemented pan	0.90
				Dense layer	0.50
				Slope	0.37
31D:					
Trenary----------	85	Somewhat limited		Somewhat limited	
		Frost action	0.50	Dense layer	0.50
		Slope	0.16	Slope	0.16
		Shrink-swell	0.01	Cutbanks cave	0.10
33:					
Ensley----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
35B:					
Munising, calcareous substratum---------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.95	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Yalmer, calcareous substratum---------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.65	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Dense layer	0.50
Frohling, calcareous substratum---------	20	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
37B:					
Grand Sable---------	90	Not limited		Very limited	
				Cutbanks cave	1.00
37E:					
Grand Sable---------	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
38B:					
Rhody----------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
				Depth to hard bedrock	0.99
				Depth to soft bedrock	0.06
Towes----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.03	Cutbanks cave	1.00
				Depth to soft bedrock	0.79
40B:					
Waiska, very stony--	90	Not limited		Very limited	
				Cutbanks cave	1.00
42:					
Davies----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14
46:					
Jacobsville, very stony----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
47C:					
Deerton----------	55	Somewhat limited		Very limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00
		Slope	0.01	Cutbanks cave	1.00
				Depth to soft bedrock	0.84
				Slope	0.01

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
47C:					
Au Train	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.29	Depth to saturated zone	1.00
47E:					
Deerton	55	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Cutbanks cave	1.00
				Slope	1.00
				Depth to soft bedrock	0.84
Au Train	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Slope	0.63
48:					
Burt	90	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Frost action	0.50		
49B:					
Cookson	90	Somewhat limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
51:					
Nahma	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Depth to hard bedrock	0.46	Ponding	1.00
Ruse	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
52B:					
Summerville---------	85	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10
57:					
Carbondale----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00		
		Ponding	1.00	Ponding	1.00
Lupton----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00		
		Ponding	1.00	Ponding	1.00
Tawas----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
58:					
Dawson----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
Greenwood----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00		
		Ponding	1.00	Ponding	1.00
Loxley----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00		
		Ponding	1.00	Ponding	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
59:					
Chippeny	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
		Depth to hard bedrock	0.64	Cutbanks cave	0.10
Nahma	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Depth to hard bedrock	0.46	Ponding	1.00
60:					
Histosols	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00		
Aquents	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00		
61:					
Pits	100	Not rated		Not rated	
62F:					
Udipsamments	50	Not rated		Not rated	
Udorthents	50	Not rated		Not rated	
64B:					
Kiva	90	Not limited		Very limited	
				Cutbanks cave	1.00
64D:					
Kiva	90	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
65D:					
Jeske, bedrock terrace	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Cutbanks cave	1.00
				Depth to soft bedrock	0.99

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65D:					
Gongeau, bedrock terrace----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54		
Deerton, bedrock terrace----------	20	Somewhat limited		Very limited	
		Slope	0.84	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Cutbanks cave	1.00
				Depth to soft bedrock	0.84
				Slope	0.84
65F:					
Jeske, bedrock terrace----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Cutbanks cave	1.00
				Depth to soft bedrock	0.99
Gongeau, bedrock terrace----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54		
Deerton, bedrock terrace----------	20	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Cutbanks cave	1.00
				Slope	1.00
				Depth to soft bedrock	0.84
66D:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00		

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
66D:					
Ensign, bedrock terrace----------	30	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	0.50		
Nykanen, bedrock terrace----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.84	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63
		Frost action	0.50		
66F:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00		
Ensign, bedrock terrace----------	30	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	0.50		
Nykanen, bedrock terrace----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.84	Slope	1.00
		Frost action	0.50		
68:					
Pits, quarry--------	100	Not rated		Not rated	
69B:					
Escanaba----------	85	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
71A:					
Evart	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	0.80
Sturgeon	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Flooding	1.00	Flooding	0.80
72E:					
Deerton, dissected	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Cutbanks cave	1.00
				Slope	1.00
				Depth to soft bedrock	0.84
Tokiahok, dissected	30	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.90	Cutbanks cave	1.00
				Slope	1.00
				Dense layer	0.50
Trout Bay, dissected	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Slope	1.00
		Slope	1.00		
72F:					
Deerton, dissected	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Slope	1.00
				Cutbanks cave	1.00
				Depth to soft bedrock	0.84
Tokiahok, dissected	25	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.90	Slope	1.00
				Cutbanks cave	1.00
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72F:					
Trout Bay, dissected	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Subsidence	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00		
76C:					
Garlic, dissected---	40	Not limited		Very limited	
				Cutbanks cave	1.00
Blue Lake, dissected	30	Not limited		Very limited	
				Cutbanks cave	1.00
Voelker, dissected--	20	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
				Cutbanks cave	1.00
76E:					
Garlic, dissected---	40	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
76F:					
Garlic, dissected---	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
77B:					
Garlic----------	40	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77B:					
Blue Lake	30	Not limited		Very limited	
				Cutbanks cave	1.00
Voelker	20	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
				Cutbanks cave	1.00
77D:					
Garlic	40	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
Blue Lake	30	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
Voelker	20	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
77E:					
Garlic	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Blue Lake	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Voelker	20	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
88:					
Cathro	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
Ensley	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
93:					
Tawas	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
Deford	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
95B:					
Liminga	90	Not limited		Very limited	
				Cutbanks cave	1.00
104C:					
Fence, dissected	90	Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	1.00
		Shrink-swell	0.78		
		Depth to saturated zone	0.75		
109D:					
Rousseau	50	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Dawson	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
109F:					
Rousseau	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Dawson	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
125B:					
Stutts	65	Not limited		Very limited	
				Cutbanks cave	1.00
Kalkaska	35	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
125D:					
Stutts----------	65	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Kalkaska----------	25	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
125E:					
Stutts----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Kalkaska----------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
135B:					
Munising, calcareous substratum---------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Ensley----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
145C:					
Munising, dissected, very stony---------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
Yalmer, dissected, very stony---------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Depth to thin cemented pan	0.90
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
146B:					
Munising, stony-----	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
Skanee, stony-------	30	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50
147A:					
Skanee, very stony--	55	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50
Gay, very stony-----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10
148B:					
Shoepac----------	70	Somewhat limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Ensley----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
155A:					
Zeba, very stony----	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.20	Cutbanks cave	0.10
Jacobsville, very stony----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
157B:					
Reade----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.64	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
Nahma----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Depth to hard bedrock	0.46	Ponding	1.00
158C:					
Munising, dissected, stony----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
Abbaye, dissected, stony----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Cutbanks cave	1.00
160B:					
Paquin----------	55	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Finch----------	45	Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
161B:					
Yellowdog, stony----	50	Somewhat limited		Very limited	
		Large stones	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.29	Cutbanks cave	1.00
				Large stones	0.50
Buckroe, stony------	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
165B:					
Chocolay, very stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Large stones	0.95	Depth to saturated zone	1.00
		Depth to hard bedrock	0.71	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.95
Waiska, very stony--	30	Not limited		Very limited	
				Cutbanks cave	1.00
166:					
Skandia----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Depth to soft bedrock	0.79
167:					
Skandia, stony------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Depth to soft bedrock	0.79
Jacobsville, stony--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
170B:					
Chocolay, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Large stones	0.95	Depth to saturated zone	1.00
		Depth to hard bedrock	0.71	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.95

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
171B:					
Paavola, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.54	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Dense layer	0.50
172D:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated	
172F:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated	
176B:					
Croswell	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
181E:					
Frohling, dissected, stony	60	Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
		Frost action	0.50	Slope	1.00
				Dense layer	0.50
Tokiahok, dissected, stony	30	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.90	Cutbanks cave	1.00
				Slope	1.00
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
185B:					
McMaster	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
186B:					
Chatham, stony	85	Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00
186D:					
Chatham, stony	85	Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00
		Slope	0.37	Slope	0.37
187B:					
Reade	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.64	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
188B:					
Eben, stony	85	Somewhat limited		Very limited	
		Large stones	0.68	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.68
188D:					
Eben, stony	90	Somewhat limited		Very limited	
		Large stones	0.68	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.68
		Slope	0.37	Slope	0.37
188E:					
Eben, stony	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones	0.68	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.68
191B:					
Ruse	50	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10
Ensign	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00		

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
197B:					
Shoepac----------	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Trenary----------	40	Somewhat limited		Somewhat limited	
		Frost action	0.50	Dense layer	0.50
		Shrink-swell	0.01	Cutbanks cave	0.10
198B:					
Shoepac----------	60	Somewhat limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Reade----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.64	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
200A:					
Charlevoix----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
				Dense layer	0.50
Ensley----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
202B:					
Sauxhead, very stony	85	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
206B:					
Traunik----------	90	Not limited		Very limited	
				Cutbanks cave	1.00
206D:					
Traunik----------	90	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
211B:					
Munising	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Dense layer	0.50
				Cutbanks cave	0.10
Abbaye	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Cutbanks cave	1.00
214B:					
Kalkaska	60	Not limited		Very limited	
				Cutbanks cave	1.00
Blue Lake	30	Not limited		Very limited	
				Cutbanks cave	1.00
214D:					
Kalkaska	55	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Blue Lake	35	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
214E:					
Kalkaska	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Blue Lake	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
221B:					
Jeske	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Cutbanks cave	1.00
				Depth to soft bedrock	0.99
Au Train	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.29	Depth to saturated zone	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
221B:					
Gongeau	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.54		
225B:					
Cusino	95	Not limited		Very limited	
				Cutbanks cave	1.00
225D:					
Cusino	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
226B:					
Kalkaska	50	Not limited		Very limited	
				Cutbanks cave	1.00
Cusino	45	Not limited		Very limited	
				Cutbanks cave	1.00
226D:					
Kalkaska	50	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Cusino	45	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
226E:					
Kalkaska	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Cusino	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
226F:					
Kalkaska	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Cusino	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
227A:					
Halfaday	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
232B:					
Shelldrake----------	90	Not limited		Very limited	
				Cutbanks cave	1.00
233B:					
Abbaye, very stony--	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Cutbanks cave	1.00
Zeba, very stony----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.20	Cutbanks cave	0.10
234A:					
Levasseur, very stony----------	55	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones	0.85	Large stones	0.85
		Frost action	0.50		
Burt, very stony----	35	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Frost action	0.50		
235B:					
Sauxhead, very stony	60	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
Burt, very stony----	30	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Frost action	0.50		
236B:					
Waiska, extremely bouldery----------	85	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
236D:					
Waiska, extremely bouldery	85	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
237B:					
Chatham	65	Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00
Davies	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14
239B:					
Longrie	50	Somewhat limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
Shingleton	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
				Cutbanks cave	0.10
240F:					
Trout Bay	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Slope	1.00
		Slope	1.00		
Gongeau	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54		
Shingleton	20	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Cutbanks cave	0.10
Rock outcrop	15	Not rated		Not rated	

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
241:					
Cathro	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00
		Frost action	1.00	Organic matter content	1.00
		Ponding	1.00		
Gay	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10
242B:					
Kalkaska, severely burned	95	Not limited		Very limited	
				Cutbanks cave	1.00
242D:					
Kalkaska, severely burned	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
242F:					
Kalkaska, severely burned	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
243:					
Markey	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
245B:					
Trout Bay	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00		
Lupton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00		

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
245B:					
Gongeau----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.54		
246B:					
Garlic----------	90	Not limited		Very limited	
				Cutbanks cave	1.00
246D:					
Garlic----------	90	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
246E:					
Garlic----------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
248B:					
Escanaba----------	50	Not limited		Very limited	
				Cutbanks cave	1.00
Greylock----------	40	Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10
248D:					
Escanaba----------	50	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Greylock----------	40	Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.37
		Slope	0.37	Cutbanks cave	0.10
248E:					
Escanaba----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Greylock----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10
249B:					
Sauxhead----------	55	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Depth to saturated zone	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
249B:					
Skandia	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.35	Depth to soft bedrock	0.79
250B:					
Chocolay, extremely stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Large stones	0.95	Depth to saturated zone	1.00
		Depth to hard bedrock	0.71	Cutbanks cave	1.00
		Frost action	0.50	Large stones	0.95
Jacobsville, extremely stony	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
251B:					
Greylock	90	Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10
251D:					
Greylock	85	Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.37
		Slope	0.37	Cutbanks cave	0.10
252A:					
Finch	50	Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
254C:					
Kalkaska, dissected	55	Not limited		Very limited	
				Cutbanks cave	1.00
Blue Lake, dissected	35	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
254E:					
Kalkaska, dissected	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
254F:					
Kalkaska, dissected	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
255D:					
Wallace----------	95	Somewhat limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	0.01	Cutbanks cave	1.00
				Dense layer	0.50
				Slope	0.01
256B:					
Whitewash----------	95	Not limited		Very limited	
				Cutbanks cave	1.00
266A:					
Spot----------	50	Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
Finch----------	40	Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
267A:					
Finch----------	85	Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
268C:					
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Frohling, calcareous substratum, dissected----------	30	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Cookson, dissected--	20	Somewhat limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
269E:					
Frohling, calcareous substratum, dissected----------	50	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.90	Cutbanks cave	1.00
		Frost action	0.50	Slope	1.00
				Dense layer	0.50
Garlic, dissected---	20	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Cookson, dissected--	20	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Slope	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
272C:					
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
272C:					
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.65	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Dense layer	0.50
Frohling, calcareous substratum, dissected----------	20	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
275B:					
Munising, calcareous substratum---------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.95	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Cookson----------	40	Somewhat limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
281E:					
Mongo, dissected----	95	Very limited		Very limited	
		Frost action	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50
		Slope	1.00	Cutbanks cave	0.10
		Shrink-swell	1.00		
282B:					
Furlong----------	50	Somewhat limited		Very limited	
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00
				Cutbanks cave	1.00
Shingleton----------	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
				Cutbanks cave	0.10
282D:					
Furlong----------	50	Somewhat limited		Very limited	
		Depth to hard bedrock	0.97	Depth to hard bedrock	1.00
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
282D:					
Shingleton----------	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.37	Slope	0.37
				Cutbanks cave	0.10
284B:					
Steuben----------	40	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Blue Lake----------	30	Not limited		Very limited	
				Cutbanks cave	1.00
Kalkaska----------	20	Not limited		Very limited	
				Cutbanks cave	1.00
284D:					
Steuben----------	40	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00
		Slope	0.37	Dense layer	0.50
				Slope	0.37
Blue Lake----------	25	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Kalkaska----------	25	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
284E:					
Steuben----------	40	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to thick cemented pan	0.99	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Kalkaska----------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
285B:					
Halfaday----------	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
285B:					
Kinross----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
286B:					
Greylock----------	50	Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10
Cookson----------	40	Somewhat limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
287B:					
McMaster----------	55	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Davies----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00
		Ponding	1.00	Ponding	1.00
		Large stones	0.14	Large stones	0.14
290A:					
Namur, very stony---	50	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10
Ruse, very stony----	40	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10
292B:					
Mashek, sandy substratum---------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
				Dense layer	0.50
296D:					
Islandlake----------	55	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
McMillan----------	35	Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00
		Slope	0.16	Slope	0.16

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
296E:					
Islandlake----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
McMillan----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00
297B:					
Rubicon, severely burned----------	95	Not limited		Very limited	
				Cutbanks cave	1.00
297D:					
Rubicon, severely burned----------	95	Somewhat limited		Very limited	
		Slope	0.26	Cutbanks cave	1.00
				Slope	0.26
298B:					
Wurtsmith----------	55	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Deford----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Cutbanks cave	1.00
		Frost action	0.50	Ponding	1.00
299F:					
Shelldrake----------	99	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
300F:					
Shelldrake----------	61	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Slope	1.00
Dune land----------	38	Not rated		Not rated	
301F:					
Cookson, dissected--	55	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Slope	1.00
		Depth to hard bedrock	0.06	Cutbanks cave	0.10
Nykanen, dissected--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Depth to saturated zone	1.00
		Frost action	0.50		

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
302B:					
Dillingham----------	45	Not limited		Very limited	
				Cutbanks cave	1.00
				Depth to thin cemented pan	0.99
				Dense layer	0.50
Kalkaska----------	40	Not limited		Very limited	
				Cutbanks cave	1.00
302D:					
Dillingham----------	52	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Depth to thin cemented pan	0.99
				Dense layer	0.50
				Slope	0.37
Kalkaska----------	45	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
302E:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
				Depth to thin cemented pan	0.99
				Dense layer	0.50
Kalkaska----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
302F:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
				Depth to thin cemented pan	0.99
				Dense layer	0.50
Kalkaska----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
303B:					
Kiva----------	55	Not limited		Very limited	
				Cutbanks cave	1.00
Trenary----------	30	Somewhat limited		Somewhat limited	
		Frost action	0.50	Dense layer	0.50
		Shrink-swell	0.01	Cutbanks cave	0.10
303D:					
Kiva----------	55	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
303D:					
Trenary----------	30	Somewhat limited		Somewhat limited	
		Frost action	0.50	Dense layer	0.50
		Slope	0.16	Slope	0.16
		Shrink-swell	0.01	Cutbanks cave	0.10
303E:					
Kiva----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
Trenary----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Frost action	0.50	Dense layer	0.50
		Shrink-swell	0.01	Cutbanks cave	0.10
305B:					
Wurtsmith----------	55	Somewhat limited		Very limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Meehan----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00
306C:					
Deerton, dissected--	35	Somewhat limited		Very limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00
				Cutbanks cave	1.00
				Depth to soft bedrock	0.84
Tokiahok, dissected	30	Somewhat limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00
		Slope	0.16	Cutbanks cave	1.00
				Dense layer	0.50
				Slope	0.16
Jeske, dissected----	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Frost action	0.50	Depth to saturated zone	1.00
		Depth to hard bedrock	0.35	Cutbanks cave	1.00
				Depth to soft bedrock	0.99
307B:					
Rubicon, very deep water table--------	95	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
307D:					
Rubicon, very deep water table--------	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
308B:					
Rubicon----------	55	Not limited		Very limited	
				Cutbanks cave	1.00
Sultz----------	40	Not limited		Very limited	
				Cutbanks cave	1.00
308D:					
Rubicon----------	55	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Sultz----------	40	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
309B:					
Rubicon, deep water table----------	95	Not limited		Very limited	
				Cutbanks cave	1.00
				Depth to saturated zone	0.47
309D:					
Rubicon, deep water table----------	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Depth to saturated zone	0.47
				Slope	0.37
310B:					
Kalkaska, burned----	90	Not limited		Very limited	
				Cutbanks cave	1.00
310D:					
Kalkaska, burned----	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
310E:					
Kalkaska, burned----	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
311B:					
Kalkaska, very deep water table, burned	95	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
311D:					
Kalkaska, very deep water table, burned	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
312B:					
Islandlake, burned--	95	Not limited		Very limited	
				Cutbanks cave	1.00
312D:					
Islandlake, burned--	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
313B:					
Kalkaska, deep water table, burned------	95	Not limited		Very limited	
				Cutbanks cave	1.00
314B:					
Blue Lake, very deep water table, burned	95	Not limited		Very limited	
				Cutbanks cave	1.00
315B:					
Blue Lake, deep water table, burned	95	Not limited		Very limited	
				Cutbanks cave	1.00
				Depth to saturated zone	0.47
316B:					
Blue Lake, burned---	95	Not limited		Very limited	
				Cutbanks cave	1.00
316D:					
Blue Lake, burned---	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
317B:					
Kalkaska, very deep water table--------	95	Not limited		Very limited	
				Cutbanks cave	1.00
317D:					
Kalkaska, very deep water table--------	95	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
318B:					
Islandlake, very deep water table---	95	Not limited		Very limited	
				Cutbanks cave	1.00

Table 12b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Rating class and limiting features	Value	Rating class and limiting features	Value
318D:					
Islandlake, very deep water table---	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
319B:					
Islandlake----------	95	Not limited		Very limited	
				Cutbanks cave	1.00
319D:					
Islandlake----------	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Slope	0.16
319E:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
319F:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
320B:					
Kalkaska, deep water table----------	95	Not limited		Very limited	
				Cutbanks cave	1.00
				Depth to saturated zone	0.47
321B:					
Kalkaska----------	50	Not limited		Very limited	
				Cutbanks cave	1.00
Deerton----------	45	Somewhat limited		Very limited	
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00
				Cutbanks cave	1.00
				Depth to soft bedrock	0.84
321D:					
Kalkaska----------	50	Somewhat limited		Very limited	
		Slope	0.37	Cutbanks cave	1.00
				Slope	0.37
Deerton----------	45	Somewhat limited		Very limited	
		Slope	0.37	Depth to hard bedrock	1.00
		Depth to hard bedrock	0.01	Cutbanks cave	1.00
				Depth to soft bedrock	0.84
				Slope	0.37

Table 13a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the 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
10:					
Beaches	100	Not rated		Not rated	
11C:					
Deer Park	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.68
		Seepage, bottom layer	1.00		
11E:					
Deer Park	95	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Seepage, bottom layer	1.00		
		Slope	1.00		
11F:					
Deer Park	98	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
12B:					
Rubicon	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
12D:					
Rubicon	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
12E:					
Rubicon	95	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--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
13B:					
Kalkaska	94	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
13D:					
Kalkaska	96	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
13E:					
Kalkaska	100	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
15A:					
Croswell	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
16A:					
Paquin	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
17A:					
Au Gres	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
18:					
Kinross	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
19:					
Deford	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
21A:					
Ingalls	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
24B:					
Munising	90	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
				Slope	0.32
				Seepage	0.08
25B:					
Munising	55	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
				Slope	0.32
				Seepage	0.08
Yalmer	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
				Slope	0.32
25D:					
Munising	55	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
		Slope	0.37	Slope	1.00
				Seepage	0.08
Yalmer	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Slope	0.37	Slope	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
31D:					
Trenary----------	85	Somewhat limited		Very limited	
		Slow water movement	0.99	Slope	1.00
		Slope	0.16	Seepage	0.32
33:					
Ensley----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
35B:					
Munising, calcareous substratum---------	40	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
				Seepage	0.68
				Slope	0.08
Yalmer, calcareous substratum---------	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
				Slope	0.08
Frohling, calcareous substratum---------	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
37B:					
Grand Sable---------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
37E:					
Grand Sable---------	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13a.--Sanitary Facilities--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
38B:					
Rhody	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Ponding	1.00
		Ponding	1.00	Depth to hard bedrock	0.99
Towes	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
40B:					
Waiska, very stony	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
42:					
Davies	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
		Large stones	0.14	Large stones	0.56
46:					
Jacobsville, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
47C:					
Deerton	55	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.01	Slope	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
47C:					
Au Train	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.32
47E:					
Deerton	55	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
Au Train	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.63	Depth to saturated zone	1.00
				Slope	1.00
48:					
Burt	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
49B:					
Cookson	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
51:					
Nahma	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50

Table 13a.--Sanitary Facilities--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
51:					
Ruse	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
52B:					
Summerville	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Seepage	0.50
57:					
Carbondale	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
Lupton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
Tawas	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
58:					
Dawson	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
Greenwood	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
58:					
Loxley	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
59:					
Chippeny	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00
		Slow water movement	1.00	Ponding	1.00
				Organic matter content	1.00
Nahma	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
60:					
Histosols	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Aquents	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
61:					
Pits	100	Not rated		Not rated	
62F:					
Udipsamments	50	Not rated		Not rated	
Udorthents	50	Not rated		Not rated	
64B:					
Kiva	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08

Table 13a.--Sanitary Facilities--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
64D:					
Kiva----------	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.16		
65D:					
Jeske, bedrock terrace----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.08
Gongeau, bedrock terrace----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Organic matter content	1.00
Deerton, bedrock terrace----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.84	Slope	1.00
65F:					
Jeske, bedrock terrace----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.32

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
65F:					
Gongeau, bedrock terrace----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Organic matter content	1.00
Deerton, bedrock terrace----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
66D:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
				Depth to saturated zone	1.00
				Seepage	0.50
Ensign, bedrock terrace----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
				Depth to saturated zone	1.00
				Seepage	0.50
				Slope	0.32
Nykanen, bedrock terrace----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Depth to saturated zone	1.00
				Slope	1.00
				Seepage	0.50

Table 13a.--Sanitary Facilities--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
66F:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
				Depth to saturated zone	1.00
				Seepage	0.50
Ensign, bedrock terrace----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
				Depth to saturated zone	1.00
				Seepage	0.50
				Slope	0.08
Nykanen, bedrock terrace----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Depth to saturated zone	1.00
				Slope	1.00
				Seepage	0.50
68:					
Pits, quarry--------	100	Not rated		Not rated	
69B:					
Escanaba----------	85	Somewhat limited		Very limited	
		Slow water movement	0.92	Seepage	1.00
				Slope	0.08
71A:					
Evart----------	70	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00		
Sturgeon----------	20	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--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
72E:					
Deerton, dissected--	40	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
Tokiahok, dissected	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
Trout Bay, dissected	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Slope	1.00
				Depth to saturated zone	1.00
72F:					
Deerton, dissected--	40	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Tokiahok, dissected	25	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
Trout Bay, dissected	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Slope	1.00
				Depth to saturated zone	1.00
76C:					
Garlic, dissected---	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00

Table 13a.--Sanitary Facilities--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
76C:					
Blue Lake, dissected	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
76E:					
Garlic, dissected---	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Seepage, bottom layer	1.00		
		Slope	1.00		
Blue Lake, dissected	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
Voelker, dissected--	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
76F:					
Garlic, dissected---	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
77B:					
Garlic----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
77B:					
Blue Lake	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Voelker	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.08
77D:					
Garlic	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16		
Blue Lake	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.16	Slope	1.00
Voelker	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.16	Seepage	1.00
				Slope	1.00
77E:					
Garlic	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
Blue Lake	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Voelker	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
88:					
Cathro	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00

Table 13a.--Sanitary Facilities--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
88:					
Ensley	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
93:					
Tawas	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
Deford	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
95B:					
Liminga	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
104C:					
Fence, dissected	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
109D:					
Rousseau	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
Dawson	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
109F:					
Rousseau	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	1.00		
Dawson	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
				Ponding	1.00
		Subsidence	1.00	Organic matter content	1.00
		Ponding	1.00		
125B:					
Stutts	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
Kalkaska	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
125D:					
Stutts	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
Kalkaska	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
125E:					
Stutts	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
Kalkaska	45	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--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
135B:					
Munising, calcareous substratum---------	65	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
				Seepage	0.68
				Slope	0.08
Ensley----------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
145C:					
Munising, dissected, very stony---------	50	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
				Slope	1.00
				Seepage	0.08
Yalmer, dissected, very stony---------	35	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
				Slope	1.00
146B:					
Munising, stony-----	60	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
				Seepage	0.08
				Slope	0.08
Skanee, stony-------	30	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
				Seepage	0.50
147A:					
Skanee, very stony--	55	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
				Seepage	0.50

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
147A:					
Gay, very stony-----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.92	Organic matter content	1.00
				Seepage	0.50
148B:					
Shoepac----------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.92
				Slope	0.08
Ensley----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
155A:					
Zeba, very stony----	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.68
Jacobsville, very stony----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
157B:					
Reade----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
Nahma----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
158C:					
Munising, dissected, stony	50	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
				Slope	0.92
				Seepage	0.08
Abbaye, dissected, stony	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Slope	0.92
				Seepage	0.50
160B:					
Paquin	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	0.08
Finch	45	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
161B:					
Yellowdog, stony	50	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	1.00	Large stones	1.00
		Large stones	0.50	Slope	0.08
Buckroe, stony	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
165B:					
Chocolay, very stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
165B:					
Waiska, very stony--	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
166:					
Skandia----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Subsidence	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00
167:					
Skandia, stony------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Subsidence	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00
Jacobsville, stony--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
170B:					
Chocolay, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
171B:					
Paavola, very stony	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.08
				Large stones	0.01

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
172D:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated	
172F:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop	15	Not rated		Not rated	
176B:					
Croswell	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Slope	0.08
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
181E:					
Frohling, dissected, stony	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.68
Tokiahok, dissected, stony	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
185B:					
McMaster	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
186B:					
Chatham, stony	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.08
186D:					
Chatham, stony	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	1.00
		Slope	0.37		
187B:					
Reade	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
188B:					
Eben, stony	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.68	Large stones	1.00
				Slope	0.08
188D:					
Eben, stony	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.68	Slope	1.00
		Slope	0.37	Large stones	1.00
188E:					
Eben, stony	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.68	Large stones	1.00
191B:					
Ruse	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00

Table 13a.--Sanitary Facilities--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
191B:					
Ensign	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
197B:					
Shoepac	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.92
Trenary	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.99	Seepage	0.32
				Slope	0.32
198B:					
Shoepac	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.92
Reade	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
200A:					
Charlevoix	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.18
Ensley	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
202B:					
Sauxhead, very stony	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.08

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
206B:					
Traunik	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.32
		Seepage, bottom layer	1.00		
206D:					
Traunik	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.16		
211B:					
Munising	55	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
				Seepage	0.08
				Slope	0.08
Abbaye	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.50
				Slope	0.08
214B:					
Kalkaska	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
Blue Lake	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
214D:					
Kalkaska	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
Blue Lake	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.37		

Table 13a.--Sanitary Facilities--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
214E:					
Kalkaska----------	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
Blue Lake----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
221B:					
Jeske----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
Au Train----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.32
Gongeau----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Depth to saturated zone	1.00
				Ponding	1.00
225B:					
Cusino----------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
225D:					
Cusino----------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		

Table 13a.--Sanitary Facilities--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
226B:					
Kalkaska----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
Cusino----------	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
226D:					
Kalkaska----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
Cusino----------	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
226E:					
Kalkaska----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
Cusino----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
226F:					
Kalkaska----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
Cusino----------	35	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--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
227A:					
Halfaday----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
232B:					
Shelldrake----------	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.32
233B:					
Abbaye, very stony--	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.50
				Slope	0.08
Zeba, very stony----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.68
234A:					
Levasseur, very stony----------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Large stones	0.85	Large stones	0.86
Burt, very stony----	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
235B:					
Sauxhead, very stony	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
235B:					
Burt, very stony----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
236B:					
Waiska, extremely bouldery----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
236D:					
Waiska, extremely bouldery----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16		
237B:					
Chatham----------	65	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.08
Davies----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
		Large stones	0.14	Large stones	0.56
239B:					
Longrie----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
Shingleton----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	0.08

Table 13a.--Sanitary Facilities--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
240F:					
Trout Bay----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	1.00
Gongeau----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Organic matter content	1.00
Shingleton----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00		
Rock outcrop--------	15	Not rated		Not rated	
241:					
Cathro----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
Gay----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.92	Organic matter content	1.00
				Seepage	0.50
242B:					
Kalkaska, severely burned----------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
242D:					
Kalkaska, severely burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
242F:					
Kalkaska, severely burned	90	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
243:					
Markey	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Subsidence	1.00	Organic matter content	1.00
		Ponding	1.00		
245B:					
Trout Bay	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Ponding	1.00	Depth to saturated zone	1.00
				Seepage	1.00
Lupton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
Gongeau	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Depth to saturated zone	1.00
				Ponding	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
246B:					
Garlic	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
246D:					
Garlic	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
246E:					
Garlic	90	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
248B:					
Escanaba	50	Somewhat limited		Very limited	
		Slow water movement	0.92	Seepage	1.00
				Slope	0.08
Greylock	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Seepage	0.50
				Slope	0.08
248D:					
Escanaba	50	Somewhat limited		Very limited	
		Slow water movement	0.92	Seepage	1.00
				Slope	1.00
		Slope	0.37		
Greylock	40	Somewhat limited		Very limited	
		Slow water movement	0.92	Slope	1.00
				Seepage	0.50
		Slope	0.37		
248E:					
Escanaba	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.92	Seepage	1.00
Greylock	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.92	Seepage	0.50

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
249B:					
Sauxhead----------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
Skandia----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Subsidence	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00
250B:					
Chocolay, extremely stony----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Large stones	0.95	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
Jacobsville, extremely stony----	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
251B:					
Greylock----------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Seepage	0.50
				Slope	0.08
251D:					
Greylock----------	85	Somewhat limited		Very limited	
		Slow water movement	0.92	Slope	1.00
		Slope	0.37	Seepage	0.50

Table 13a.--Sanitary Facilities--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
252A:					
Finch	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
254C:					
Kalkaska, dissected	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
254E:					
Kalkaska, dissected	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	1.00		
Blue Lake, dissected	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
254F:					
Kalkaska, dissected	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
255D:					
Wallace----------	95	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.01	Slope	1.00
256B:					
Whitewash----------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
266A:					
Spot----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
				Organic matter content	1.00
Finch----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
267A:					
Finch----------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
268C:					
Munising, calcareous substratum, dissected----------	40	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
				Slope	0.92
				Seepage	0.68

Table 13a.--Sanitary Facilities--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
268C:					
Frohling, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
Cookson, dissected--	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
269E:					
Frohling, calcareous substratum, dissected----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Garlic, dissected---	20	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	1.00		
Cookson, dissected--	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
272C:					
Munising, calcareous substratum, dissected----------	40	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
				Slope	0.92
				Seepage	0.68
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
				Slope	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
272C:					
Frohling, calcareous substratum, dissected	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
275B:					
Munising, calcareous substratum	50	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
				Seepage	0.68
				Slope	0.08
Cookson	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
281E:					
Mongo, dissected	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
282B:					
Furlong	50	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Slope	0.32
Shingleton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	0.08
282D:					
Furlong	50	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.37	Slope	1.00
Shingleton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		

Table 13a.--Sanitary Facilities--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
284B:					
Steuben----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Blue Lake----------	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Kalkaska----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
284D:					
Steuben----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.37		
Blue Lake----------	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.37		
Kalkaska----------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
284E:					
Steuben----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Kalkaska----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
285B:					
Halfaday	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
286B:					
Greylock	50	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Seepage	0.50
				Slope	0.08
Cookson	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
287B:					
McMaster	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
Davies	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
		Large stones	0.14	Large stones	0.56
290A:					
Namur, very stony	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
Ruse, very stony	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
292B:					
Mashek, sandy substratum	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00		
296D:					
Islandlake	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16		
McMillan	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16		
296E:					
Islandlake	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
McMillan	35	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
297B:					
Rubicon, severely burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
297D:					
Rubicon, severely burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.26		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
298B:					
Wurtsmith----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Slope	0.08
Deford----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00
		Ponding	1.00	Organic matter content	1.00
299F:					
Shelldrake----------	99	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00		
300F:					
Shelldrake----------	61	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00		
Dune land----------	38	Not rated		Not rated	
301F:					
Cookson, dissected--	55	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Nykanen, dissected--	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Depth to saturated zone	1.00
				Seepage	0.50
302B:					
Dillingham----------	45	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
302B:					
Kalkaska----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
302D:					
Dillingham----------	52	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.37		
Kalkaska----------	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
302E:					
Dillingham----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Kalkaska----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
302F:					
Dillingham----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Kalkaska----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
303B:					
Kiva----------	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
303B:					
Trenary	30	Somewhat limited		Somewhat limited	
		Slow water movement	0.99	Seepage	0.32
				Slope	0.08
303D:					
Kiva	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16		
Trenary	30	Somewhat limited		Very limited	
		Slow water movement	0.99	Slope	1.00
		Slope	0.16	Seepage	0.32
303E:					
Kiva	55	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
Trenary	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.99	Seepage	0.32
305B:					
Wurtsmith	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Slope	0.32
Meehan	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
306C:					
Deerton, dissected	35	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Slope	0.92

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
306C:					
Tokiahok, dissected	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Filtering capacity	1.00	Slope	1.00
		Slope	0.16	Seepage	1.00
Jeske, dissected	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	1.00
				Slope	0.68
307B:					
Rubicon, very deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
307D:					
Rubicon, very deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
308B:					
Rubicon	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
Sultz	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Slope	0.08
308D:					
Rubicon	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
Sultz	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Slope	0.37	Slope	1.00

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
309B:					
Rubicon, deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.40
		Depth to saturated zone	0.94	Slope	0.08
309D:					
Rubicon, deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to saturated zone	0.94	Depth to saturated zone	0.40
		Slope	0.37		
310B:					
Kalkaska, burned	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
310D:					
Kalkaska, burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
310E:					
Kalkaska, burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
311B:					
Kalkaska, very deep water table, burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
311D:					
Kalkaska, very deep water table, burned	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
312B:					
Islandlake, burned--	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
312D:					
Islandlake, burned--	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.16		
313B:					
Kalkaska, deep water table, burned------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
314B:					
Blue Lake, very deep water table, burned	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
315B:					
Blue Lake, deep water table, burned	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	0.40
		Depth to saturated zone	0.94		
				Slope	0.08
316B:					
Blue Lake, burned---	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
316D:					
Blue Lake, burned---	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.37		
317B:					
Kalkaska, very deep water table--------	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
317D:					
Kalkaska, very deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.37		
318B:					
Islandlake, very deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
318D:					
Islandlake, very deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.16		
319B:					
Islandlake	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.08
		Seepage, bottom layer	1.00		
319D:					
Islandlake	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Seepage, bottom layer	1.00		
		Slope	0.16		
319E:					
Islandlake	95	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		
319F:					
Islandlake	95	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00		

Table 13a.--Sanitary Facilities--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
320B:					
Kalkaska, deep water table	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.40
		Depth to saturated zone	0.94		
321B:					
Kalkaska	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
Deerton	45	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Slope	0.08
321D:					
Kalkaska	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37		
Deerton	45	Very limited		Very limited	
		Filtering capacity	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.37	Slope	1.00

Table 13b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the 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
10:							
Beaches	100	Not rated		Not rated		Not rated	
11C:							
Deer Park	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
11E:							
Deer Park	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
11F:							
Deer Park	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
12B:							
Rubicon	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
12D:							
Rubicon	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
12E:							
Rubicon	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
13B:							
Kalkaska	94	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
13D:							
Kalkaska	96	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
13E:							
Kalkaska	100	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
15A:							
Croswell	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
16A:							
Paquin	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Depth to thin cemented pan	0.50			Depth to saturated zone	0.86
17A:							
Au Gres	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
18:							
Kinross	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
19:							
Deford	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
21A:							
Ingalls	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00		

Table 13b.--Sanitary Facilities--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
24B:							
Munising----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
25B:							
Munising----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Yalmer----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
25D:							
Munising----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Slope	0.37	Slope	0.37
Yalmer----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
		Slope	0.37	Slope	0.37	Seepage	1.00
						Slope	0.37
31D:							
Trenary----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
33:							
Ensley----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
35B:							
Munising, calcareous substratum---------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13b.--Sanitary Facilities--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
35B:							
Yalmer, calcareous substratum---------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
						Too sandy	0.50
Frohling, calcareous substratum---------	20	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
37B:							
Grand Sable---------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
37E:							
Grand Sable---------	98	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
38B:							
Rhody----------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00	Ponding	1.00	Depth to bedrock	1.00
		Ponding	1.00			Ponding	1.00
Towes----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00		
40B:							
Waiska, very stony--	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	1.00
42:							
Davies----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
		Large stones	0.21			Gravel content	0.25

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
46:							
Jacobsville, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
47C:							
Deerton	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00	Slope	0.01	Depth to bedrock	1.00
		Slope	0.01			Slope	0.01
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	0.09
47E:							
Deerton	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
Au Train	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Slope	0.63	Too sandy	1.00
		Too sandy	1.00			Slope	0.63
		Slope	0.63			Seepage	0.09
48:							
Burt	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Ponding	1.00			Ponding	1.00
49B:							
Cookson	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 13b.--Sanitary Facilities--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
51:							
Nahma	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ruse	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.21
52B:							
Summerville	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
57:							
Carbondale	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.21
Lupton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.16
Tawas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
58:							
Dawson	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00

Table 13b.--Sanitary Facilities--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
58:							
Greenwood----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.21
Loxley----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.15
59:							
Chippeny----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Seepage	0.16
Nahma----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
60:							
Histosols----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00			Seepage	0.16
Aquents----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
61:							
Pits----------	100	Not rated		Not rated		Not rated	
62F:							
Udipsamments--------	50	Not rated		Not rated		Not rated	
Udorthents----------	50	Not rated		Not rated		Not rated	

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
64B:							
Kiva----------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
64D:							
Kiva----------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
65D:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Gongeau, bedrock terrace----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Deerton, bedrock terrace----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00	Slope	0.84	Depth to bedrock	1.00
		Slope	0.84			Slope	0.84
65F:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Gongeau, bedrock terrace----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--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
65F:							
Deerton, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
				Slope	1.00	Depth to bedrock	1.00
		Too sandy	1.00			Slope	1.00
		Slope	1.00				
66D:							
Ruse, bedrock terrace	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Slope	0.63	Slope	0.63	Slope	0.63
66F:							
Ruse, bedrock terrace	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Slope	1.00	Slope	1.00	Slope	1.00
68:							
Pits, quarry	100	Not rated		Not rated		Not rated	
69B:							
Escanaba	85	Not limited		Very limited		Not limited	
				Seepage	1.00		

Table 13b.--Sanitary Facilities--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
71A:							
Evart	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00				
Sturgeon	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
72E:							
Deerton, dissected	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
Tokiahok, dissected	30	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50	Slope	1.00	Slope	1.00
						Too sandy	0.50
Trout Bay, dissected	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
		Seepage, bottom layer	1.00			Seepage	0.16
72F:							
Deerton, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00			Depth to bedrock	1.00
Tokiahok, dissected	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
						Too sandy	0.50

Table 13b.--Sanitary Facilities--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
72F:							
Trout Bay, dissected	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00			Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Seepage	0.16
76C:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake, dissected	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	0.50			Too sandy	0.50
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
76E:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Seepage	0.57
		Too sandy	0.50			Too sandy	0.50
Voelker, dissected	20	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Too sandy	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Seepage	1.00
						Slope	1.00
76F:							
Garlic, dissected	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake, dissected	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	0.50			Too sandy	0.50

Table 13b.--Sanitary Facilities--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
76F:							
Voelker, dissected--	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
77B:							
Garlic----------	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake----------	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	0.50			Too sandy	0.50
Voelker----------	20	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
77D:							
Garlic----------	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
Blue Lake----------	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	0.50	Slope	0.16	Too sandy	0.50
		Slope	0.16			Slope	0.16
Voelker----------	20	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
		Slope	0.16	Slope	0.16	Seepage	1.00
						Slope	0.16
77E:							
Garlic----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	0.50			Too sandy	0.50

Table 13b.--Sanitary Facilities--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
77E:							
Voelker----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
88:							
Cathro----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00	Ponding	1.00
				Ponding	1.00		
Ensley----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
93:							
Tawas----------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
Deford----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
95B:							
Liminga----------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
104C:							
Fence, dissected----	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
109D:							
Rousseau----------	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
109D:							
Dawson	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Ponding	1.00	Seepage	1.00
		Too sandy	1.00			Ponding	1.00
		Ponding	1.00				
109F:							
Rousseau	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	1.00	Seepage	1.00
		Too sandy	1.00			Slope	1.00
		Slope	1.00				
Dawson	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Ponding	1.00	Seepage	1.00
		Too sandy	1.00			Ponding	1.00
		Ponding	1.00				
125B:							
Stutts	65	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Kalkaska	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
125D:							
Stutts	65	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
Kalkaska	25	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
125E:							
Stutts	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Kalkaska	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				

Table 13b.--Sanitary Facilities--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
135B:							
Munising, calcareous substratum---------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ensley----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
145C:							
Munising, dissected, very stony---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Yalmer, dissected, very stony---------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
146B:							
Munising, stony-----	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Skanee, stony-------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
147A:							
Skanee, very stony--	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Gay, very stony-----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
148B:							
Shoepac----------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
148B:							
Ensley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
155A:							
Zeba, very stony	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Jacobsville, very stony	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
157B:							
Reade	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Nahma	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
158C:							
Munising, dissected, stony	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Abbaye, dissected, stony	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
160B:							
Paquin	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Depth to thin cemented pan	0.50			Depth to saturated zone	0.86

Table 13b.--Sanitary Facilities--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
160B:							
Finch----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
161B:							
Yellowdog, stony----	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00			Depth to bedrock	1.00
		Large stones	0.50			Large stones	0.50
						Gravel content	0.43
Buckroe, stony------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	0.90
165B:							
Chocolay, very stony	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.95			Large stones	0.95
Waiska, very stony--	30	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	1.00
166:							
Skandia----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.09
167:							
Skandia, stony------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.09

Table 13b.--Sanitary Facilities--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
167:							
Jacobsville, stony--	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
170B:							
Chocolay, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.95			Large stones	0.95
						Gravel content	0.01
171B:							
Paavola, very stony	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
						Gravel content	1.00
172D:							
Buckroe, very bouldery----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Slope	1.00			Slope	1.00
						Gravel content	0.90
Rock outcrop--------	15	Not rated		Not rated		Not rated	
172F:							
Buckroe, very bouldery----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.90
Rock outcrop--------	15	Not rated		Not rated		Not rated	
176B:							
Croswell----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86

Table 13b.--Sanitary Facilities--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
176B:							
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
181E:							
Frohling, dissected, stony----------	60	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Tokiahok, dissected, stony----------	30	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50	Slope	1.00	Slope	1.00
						Too sandy	0.50
185B:							
McMaster----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Gravel content	0.96
						Depth to saturated zone	0.86
186B:							
Chatham, stony------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	1.00
		Large stones	1.00			Seepage	0.63
186D:							
Chatham, stony------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	1.00
		Large stones	1.00	Slope	0.37	Seepage	0.63
		Slope	0.37			Slope	0.37
187B:							
Reade----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
188B:							
Eben, stony---------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Large stones	0.68			Gravel content	0.85
						Large stones	0.68

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
188D:							
Eben, stony---------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Gravel content	0.85
		Large stones	0.68			Large stones	0.68
		Slope	0.37			Slope	0.37
188E:							
Eben, stony---------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.85
		Large stones	0.68			Large stones	0.68
191B:							
Ruse----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
						Seepage	0.21
		Ponding	1.00				
Ensign----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Organic matter content	1.00			Organic matter content	1.00
197B:							
Shoepac----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Trenary----------	40	Not limited		Not limited		Not limited	
198B:							
Shoepac----------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Reade----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
200A:							
Charlevoix----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ensley----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 13b.--Sanitary Facilities--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
202B:							
Sauxhead, very stony	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
						Gravel content	0.94
		Too sandy	0.50			Too sandy	0.50
206B:							
Traunik	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.87
206D:							
Traunik	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.16	Seepage	1.00
		Too sandy	1.00			Gravel content	0.87
		Slope	0.16			Slope	0.16
211B:							
Munising	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Abbaye	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
214B:							
Kalkaska	60	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Blue Lake	30	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	0.57
		Too sandy	1.00				
214D:							
Kalkaska	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
Blue Lake	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	0.57
		Too sandy	1.00			Slope	0.37
		Slope	0.37				

Table 13b.--Sanitary Facilities--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
214E:							
Kalkaska----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
221B:							
Jeske----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Au Train----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	0.09
Gongeau----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Ponding	1.00			Ponding	1.00
225B:							
Cusino----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
225D:							
Cusino----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
226B:							
Kalkaska----------	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--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
226B:							
Cusino	45	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
226D:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
Cusino	45	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
226E:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Cusino	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
226F:							
Kalkaska	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Cusino	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
227A:							
Halfaday	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
232B:							
Shelldrake	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
233B:							
Abbaye, very stony--	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Zeba, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
234A:							
Levasseur, very stony----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Large stones	0.85			Large stones	0.85
Burt, very stony----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Ponding	1.00			Ponding	1.00
235B:							
Sauxhead, very stony	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
		Too sandy	0.50			Gravel content	0.94
						Too sandy	0.50
Burt, very stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Ponding	1.00			Ponding	1.00
236B:							
Waiska, extremely bouldery----------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	1.00

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
236D:							
Waiska, extremely bouldery	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.16	Seepage	1.00
		Too sandy	1.00			Gravel content	1.00
		Slope	0.16			Slope	0.16
237B:							
Chatham	65	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	1.00
		Large stones	1.00			Seepage	0.63
Davies	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Ponding	1.00	Seepage	1.00
		Too sandy	1.00			Ponding	1.00
		Ponding	1.00			Gravel content	0.25
		Large stones	0.21				
239B:							
Longrie	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Shingleton	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00				
240F:							
Trout Bay	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
		Seepage, bottom layer	1.00			Seepage	0.16
Gongeau	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Shingleton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00				
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
241:							
Cathro	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Seepage	0.16
Gay	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
242B:							
Kalkaska, severely burned	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
242D:							
Kalkaska, severely burned	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
242F:							
Kalkaska, severely burned	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
243:							
Markey	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
245B:							
Trout Bay	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Ponding	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Ponding	1.00
		Ponding	1.00			Seepage	0.16

Table 13b.--Sanitary Facilities--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
245B:							
Lupton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.16
Gongeau	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Ponding	1.00			Ponding	1.00
246B:							
Garlic	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
246D:							
Garlic	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
246E:							
Garlic	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
248B:							
Escanaba	50	Not limited		Very limited		Not limited	
				Seepage	1.00		
Greylock	40	Not limited		Not limited		Not limited	
248D:							
Escanaba	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.37	Seepage	1.00	Slope	0.37
				Slope	0.37		
Greylock	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
248E:							
Escanaba	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Seepage	1.00		
Greylock	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 13b.--Sanitary Facilities--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
249B:							
Sauxhead----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
						Gravel content	0.94
		Too sandy	0.50			Too sandy	0.50
Skandia----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Depth to bedrock	1.00
				Ponding	1.00	Ponding	1.00
		Seepage, bottom layer	1.00			Seepage	0.09
		Ponding	1.00				
250B:							
Chocolay, extremely stony----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.95			Large stones	0.95
Jacobsville, extremely stony----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
251B:							
Greylock----------	90	Not limited		Not limited		Not limited	
251D:							
Greylock----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
252A:							
Finch----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Ponding	1.00	Seepage	1.00
		Too sandy	1.00			Ponding	1.00
		Ponding	1.00				

Table 13b.--Sanitary Facilities--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
254C:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
254E:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Seepage	0.57
254F:							
Kalkaska, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Blue Lake, dissected	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
255D:							
Wallace----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Depth to thin cemented pan	0.50	Slope	0.01	Seepage	1.00
		Slope	0.01			Slope	0.01
256B:							
Whitewash----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
266A:							
Spot----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Seepage	1.00	Seepage	1.00
		Organic matter content	1.00	Ponding	1.00	Ponding	1.00
		Depth to thin cemented pan	0.50			Organic matter content	1.00
Finch----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
267A:							
Finch----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
268C:							
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Frohling, calcareous substratum, dissected----------	30	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
Cookson, dissected--	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
269E:							
Frohling, calcareous substratum, dissected----------	50	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 13b.--Sanitary Facilities--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
269E:							
Garlic, dissected---	20	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
Cookson, dissected--	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
272C:							
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
						Too sandy	0.50
Frohling, calcareous substratum, dissected----------	20	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
275B:							
Munising, calcareous substratum---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Cookson----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
281E:							
Mongo, dissected----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
282B:							
Furlong----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00			Depth to bedrock	1.00

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
282B:							
Shingleton----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00				
282D:							
Furlong----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
Shingleton----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Slope	0.37	Slope	0.37
		Slope	0.37				
284B:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00				
Blue Lake----------	30	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
Kalkaska----------	20	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
284D:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Slope	0.37	Slope	0.37
		Slope	0.37				
Blue Lake----------	25	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	0.57
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
Kalkaska----------	25	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
284E:							
Steuben----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00				
Blue Lake----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
Kalkaska----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
285B:							
Halfaday----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
Kinross----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
286B:							
Greylock----------	50	Not limited		Not limited		Not limited	
Cookson----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
287B:							
McMaster----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Gravel content	0.96
						Depth to saturated zone	0.86
Davies----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
		Large stones	0.21			Gravel content	0.25

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
290A:							
Namur, very stony---	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Ruse, very stony----	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00			Seepage	0.21
292B:							
Mashek, sandy substratum---------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
296D:							
Islandlake----------	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
McMillan----------	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
296E:							
Islandlake----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
McMillan----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
297B:							
Rubicon, severely burned----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
297D:							
Rubicon, severely burned----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.26	Seepage	1.00
		Slope	0.26			Slope	0.26

Table 13b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
298B:							
Wurtsmith	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
Deford	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00			Ponding	1.00
299F:							
Shelldrake	99	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
300F:							
Shelldrake	61	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
Dune land	38	Not rated		Not rated		Not rated	
301F:							
Cookson, dissected	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Nykanen, dissected	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
302B:							
Dillingham	45	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Seepage	0.52
		Too sandy	0.50			Too sandy	0.50
Kalkaska	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--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
302D:							
Dillingham----------	52	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Seepage	0.52
		Too sandy	0.50	Slope	0.37	Too sandy	0.50
		Slope	0.37			Slope	0.37
Kalkaska----------	45	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
302E:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Seepage	0.52
		Too sandy	0.50			Too sandy	0.50
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
302F:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Seepage	1.00	Seepage	0.52
		Too sandy	0.50			Too sandy	0.50
Kalkaska----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
303B:							
Kiva----------	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Trenary----------	30	Not limited		Not limited		Not limited	
303D:							
Kiva----------	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16

Table 13b.--Sanitary Facilities--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
303D:							
Trenary----------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
303E:							
Kiva----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Trenary----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
305B:							
Wurtsmith----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
Meehan----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
306C:							
Deerton, dissected--	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Too sandy	1.00			Depth to bedrock	1.00
Tokiahok, dissected	30	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
		Slope	0.16	Slope	0.16	Too sandy	0.50
						Slope	0.16
Jeske, dissected----	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
307B:							
Rubicon, very deep water table--------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--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
307D:							
Rubicon, very deep water table--------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
308B:							
Rubicon----------	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Sultz----------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
308D:							
Rubicon----------	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
Sultz----------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Slope	0.37	Slope	0.37	Seepage	1.00
						Slope	0.37
309B:							
Rubicon, deep water table----------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
						Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
		Too sandy	1.00				
309D:							
Rubicon, deep water table----------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
						Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.37
				Slope	0.37		
		Too sandy	1.00				
		Slope	0.37				
310B:							
Kalkaska, burned----	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				

Table 13b.--Sanitary Facilities--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
310D:							
Kalkaska, burned----	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
310E:							
Kalkaska, burned----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
311B:							
Kalkaska, very deep water table, burned	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
311D:							
Kalkaska, very deep water table, burned	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
312B:							
Islandlake, burned--	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
312D:							
Islandlake, burned--	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.16	Seepage	1.00
		Too sandy	1.00			Slope	0.16
		Slope	0.16				
313B:							
Kalkaska, deep water table, burned------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
314B:							
Blue Lake, very deep water table, burned	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	0.57
		Too sandy	1.00				

Table 13b.--Sanitary Facilities--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
315B:							
Blue Lake, deep water table, burned	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.57
		Too sandy	1.00				
316B:							
Blue Lake, burned---	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.57
316D:							
Blue Lake, burned---	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	0.57
		Slope	0.37			Slope	0.37
317B:							
Kalkaska, very deep water table--------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
317D:							
Kalkaska, very deep water table--------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.37	Seepage	1.00
		Slope	0.37			Slope	0.37
318B:							
Islandlake, very deep water table---	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
318D:							
Islandlake, very deep water table---	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
319B:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00

Table 13b.--Sanitary Facilities--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
319D:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.16	Seepage	1.00
		Too sandy	1.00			Slope	0.16
		Slope	0.16				
319E:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
319F:							
Islandlake----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
320B:							
Kalkaska, deep water table----------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
						Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
		Too sandy	1.00				
321B:							
Kalkaska----------	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
Deerton----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
						Depth to bedrock	1.00
		Too sandy	1.00				
321D:							
Kalkaska----------	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.37	Seepage	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				
Deerton----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
				Slope	0.37	Depth to bedrock	1.00
		Too sandy	1.00			Slope	0.37
		Slope	0.37				

Table 14a.--Construction Materials

(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 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 as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
10:					
Beaches	100	Not rated		Not rated	
11C:					
Deer Park	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
11E:					
Deer Park	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
11F:					
Deer Park	98	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
12B:					
Rubicon	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
12D:					
Rubicon	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
12E:					
Rubicon	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
13B:					
Kalkaska	94	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
13D:					
Kalkaska	96	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
13E:					
Kalkaska	100	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
15A:					
Croswell	92	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
16A:					
Paquin	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.95
17A:					
Au Gres	92	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
18:					
Kinross	92	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.37
		Thickest layer	0.00	Bottom layer	0.95
19:					
Deford	92	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
21A:					
Ingalls	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.72
24B:					
Munising	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
25B:					
Munising	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Yalmer	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.04
25D:					
Munising	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Yalmer	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.04
31D:					
Trenary	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
33:					
Ensley	90	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
35B:					
Munising, calcareous substratum---------	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
Yalmer, calcareous substratum---------	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.69	Thickest layer	0.00
Frohling, calcareous substratum---------	20	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.60	Bottom layer	0.00
37B:					
Grand Sable---------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.91
37E:					
Grand Sable---------	98	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.91
38B:					
Rhody----------	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.64	Bottom layer	0.91
Towes----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
40B:					
Waiska, very stony--	90	Fair		Fair	
		Thickest layer	0.83	Bottom layer	0.64
		Bottom layer	0.90	Thickest layer	0.64
42:					
Davies----------	90	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
46:					
Jacobsville, very stony----------	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
47C:					
Deerton----------	55	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
Au Train----------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.66

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
47E:					
Deerton	55	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
Au Train	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.66
48:					
Burt	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.00	Bottom layer	0.86
49B:					
Cookson	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
51:					
Nahma	50	Poor		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00		
Ruse	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
52B:					
Summerville	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
57:					
Carbondale	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lupton	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tawas	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
58:					
Dawson	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
Greenwood	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Loxley	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
59:					
Chippeny	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nahma	30	Poor		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00		
60:					
Histosols	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Aquents	50	Not rated		Not rated	
61:					
Pits	100	Not rated		Not rated	
62F:					
Udipsamments	50	Not rated		Not rated	
Udorthents	50	Not rated		Not rated	
64B:					
Kiva	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.57
64D:					
Kiva	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.57
65D:					
Jeske, bedrock terrace	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.21
		Thickest layer	0.00	Bottom layer	0.52
Gongeau, bedrock terrace	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.52
Deerton, bedrock terrace	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
65F:					
Jeske, bedrock terrace	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.21
		Thickest layer	0.00	Bottom layer	0.52
Gongeau, bedrock terrace	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.52

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
65F:					
Deerton, bedrock terrace	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
66D:					
Ruse, bedrock terrace	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ensign, bedrock terrace	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nykanen, bedrock terrace	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
66F:					
Ruse, bedrock terrace	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ensign, bedrock terrace	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nykanen, bedrock terrace	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
68:					
Pits, quarry	100	Not rated		Not rated	
69B:					
Escanaba	85	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.60	Thickest layer	0.03
71A:					
Evart	70	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.95
Sturgeon	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.43

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
72E:					
Deerton, dissected--	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
Tokiahok, dissected	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Trout Bay, dissected	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
72F:					
Deerton, dissected--	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
Tokiahok, dissected	25	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Trout Bay, dissected	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
76C:					
Garlic, dissected---	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Blue Lake, dissected	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker, dissected--	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
76E:					
Garlic, dissected---	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Blue Lake, dissected	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker, dissected--	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
76F:					
Garlic, dissected---	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
76F:					
Blue Lake, dissected	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker, dissected--	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77B:					
Garlic----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Blue Lake----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77D:					
Garlic----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Blue Lake----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77E:					
Garlic----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Blue Lake----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.08
Voelker----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
88:					
Cathro----------	55	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
Ensley----------	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
93:					
Tawas	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
Deford	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
95B:					
Liminga	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.45
		Thickest layer	0.00	Thickest layer	0.45
104C:					
Fence, dissected	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
109D:					
Rousseau	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.25
		Thickest layer	0.00	Bottom layer	0.64
Dawson	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
109F:					
Rousseau	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.25
		Thickest layer	0.00	Bottom layer	0.64
Dawson	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
125B:					
Stutts	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.91
Kalkaska	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
125D:					
Stutts	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.91
Kalkaska	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
125E:					
Stutts	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.91

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
125E:					
Kalkaska----------	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
135B:					
Munising, calcareous substratum---------	65	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
Ensley----------	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
145C:					
Munising, dissected, very stony---------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Yalmer, dissected, very stony---------	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.04
146B:					
Munising, stony-----	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Skanee, stony-------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
147A:					
Skanee, very stony--	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Gay, very stony-----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
148B:					
Shoepac----------	70	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
Ensley----------	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
155A:					
Zeba, very stony----	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
155A:					
Jacobsville, very stony	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
157B:					
Reade	45	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.15	Bottom layer	0.00
Nahma	40	Poor		Not rated	
		Bottom layer	0.00		
		Thickest layer	0.00		
158C:					
Munising, dissected, stony	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Abbaye, dissected, stony	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.04
160B:					
Paquin	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.95
Finch	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.43
161B:					
Yellowdog, stony	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Buckroe, stony	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.71	Bottom layer	0.71
165B:					
Chocolay, very stony	55	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.02
		Bottom layer	0.29	Thickest layer	0.02
Waiska, very stony	30	Fair		Fair	
		Thickest layer	0.83	Bottom layer	0.64
		Bottom layer	0.90	Thickest layer	0.64
166:					
Skandia	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
167:					
Skandia, stony------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Jacobsville, stony--	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
170B:					
Chocolay, very stony	90	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.02
		Bottom layer	0.29	Thickest layer	0.02
171B:					
Paavola, very stony	90	Fair		Fair	
		Thickest layer	0.09	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.09
172D:					
Buckroe, very bouldery----------	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.71	Bottom layer	0.71
Rock outcrop--------	15	Not rated		Not rated	
172F:					
Buckroe, very bouldery----------	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.71	Bottom layer	0.71
Rock outcrop--------	15	Not rated		Not rated	
176B:					
Croswell----------	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Kinross----------	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.37
		Thickest layer	0.00	Bottom layer	0.95
181E:					
Frohling, dissected, stony----------	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
Tokiahok, dissected, stony----------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
185B:					
McMaster----------	90	Fair		Fair	
		Bottom layer	0.43	Bottom layer	0.43
		Thickest layer	0.43	Thickest layer	0.43

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
186B:					
Chatham, stony------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
186D:					
Chatham, stony------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
187B:					
Reade----------	85	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.15	Bottom layer	0.00
188B:					
Eben, stony---------	85	Fair		Fair	
		Bottom layer	0.29	Thickest layer	0.03
		Thickest layer	0.29	Bottom layer	0.29
188D:					
Eben, stony---------	90	Fair		Fair	
		Bottom layer	0.29	Thickest layer	0.03
		Thickest layer	0.29	Bottom layer	0.29
188E:					
Eben, stony---------	90	Fair		Fair	
		Bottom layer	0.29	Thickest layer	0.03
		Thickest layer	0.29	Bottom layer	0.29
191B:					
Ruse----------	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Ensign----------	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
197B:					
Shoepac----------	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
Trenary----------	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
198B:					
Shoepac----------	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
Reade----------	30	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.15	Bottom layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
200A:					
Charlevoix----------	55	Fair		Poor	
		Thickest layer	0.15	Bottom layer	0.00
		Bottom layer	0.21	Thickest layer	0.00
Ensley----------	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.64	Thickest layer	0.00
202B:					
Sauxhead, very stony	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.86	Bottom layer	0.08
206B:					
Traunik----------	90	Fair		Fair	
		Bottom layer	0.43	Bottom layer	0.43
		Thickest layer	0.43	Thickest layer	0.43
206D:					
Traunik----------	90	Fair		Fair	
		Bottom layer	0.43	Bottom layer	0.43
		Thickest layer	0.43	Thickest layer	0.43
211B:					
Munising----------	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Abbaye----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.04
214B:					
Kalkaska----------	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake----------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
214D:					
Kalkaska----------	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
214E:					
Kalkaska----------	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
221B:					
Jeske	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.21
		Thickest layer	0.00	Bottom layer	0.52
Au Train	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.66
Gongeau	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.52
225B:					
Cusino	95	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86
225D:					
Cusino	95	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86
226B:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Cusino	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86
226D:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Cusino	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86
226E:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Cusino	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86
226F:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Cusino	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.79
		Bottom layer	0.00	Bottom layer	0.86

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
227A:					
Halfaday----------	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
232B:					
Shelldrake----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.95
233B:					
Abbaye, very stony--	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.04
Zeba, very stony----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
234A:					
Levasseur, very stony----------	55	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Burt, very stony----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.00	Bottom layer	0.86
235B:					
Sauxhead, very stony	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.86	Bottom layer	0.08
Burt, very stony----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.00	Bottom layer	0.86
236B:					
Waiska, extremely bouldery----------	85	Fair		Fair	
		Thickest layer	0.83	Bottom layer	0.64
		Bottom layer	0.90	Thickest layer	0.64
236D:					
Waiska, extremely bouldery----------	85	Fair		Fair	
		Thickest layer	0.83	Bottom layer	0.64
		Bottom layer	0.90	Thickest layer	0.64
237B:					
Chatham----------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Davies----------	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
239B:					
Longrie	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.01
		Bottom layer	0.24	Thickest layer	0.01
Shingleton	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
240F:					
Trout Bay	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gongeau	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.52
Shingleton	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
Rock outcrop	15	Not rated		Not rated	
241:					
Cathro	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gay	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
242B:					
Kalkaska, severely burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
242D:					
Kalkaska, severely burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
242F:					
Kalkaska, severely burned	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
243:					
Markey	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
245B:					
Trout Bay	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
245B:					
Lupton	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gongeau	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.52
246B:					
Garlic	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
246D:					
Garlic	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
246E:					
Garlic	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
248B:					
Escanaba	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.60	Thickest layer	0.03
Greylock	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
248D:					
Escanaba	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.60	Thickest layer	0.03
Greylock	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
248E:					
Escanaba	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.60	Thickest layer	0.03
Greylock	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
249B:					
Sauxhead	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.86	Bottom layer	0.08
Skandia	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
250B:					
Chocolay, extremely stony	55	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.02
		Bottom layer	0.29	Thickest layer	0.02
Jacobsville, extremely stony	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
251B:					
Greylock	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
251D:					
Greylock	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
252A:					
Finch	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.43
Kinross	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.37
		Thickest layer	0.00	Bottom layer	0.95
254C:					
Kalkaska, dissected	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake, dissected	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
254E:					
Kalkaska, dissected	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake, dissected	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
254F:					
Kalkaska, dissected	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Blue Lake, dissected	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
255D:					
Wallace	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.93

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
256B:					
Whitewash----------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.91
266A:					
Spot----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.64
Finch----------	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.43
267A:					
Finch----------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.43
268C:					
Munising, calcareous substratum, dissected----------	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
Frohling, calcareous substratum, dissected----------	30	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.60	Bottom layer	0.00
Cookson, dissected--	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
269E:					
Frohling, calcareous substratum, dissected----------	50	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.60	Bottom layer	0.00
Garlic, dissected---	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.91
		Thickest layer	0.00	Thickest layer	0.91
Cookson, dissected--	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
272C:					
Munising, calcareous substratum, dissected----------	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
272C:					
Yalmer, calcareous substratum, dissected	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.69	Thickest layer	0.00
Frohling, calcareous substratum, dissected	20	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.60	Bottom layer	0.00
275B:					
Munising, calcareous substratum	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
Cookson	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
281E:					
Mongo, dissected	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
282B:					
Furlong	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Shingleton	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
282D:					
Furlong	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Shingleton	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
284B:					
Steuben	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.91
Blue Lake	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
Kalkaska	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
284D:					
Steuben	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.91
Blue Lake	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
Kalkaska	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
284E:					
Steuben	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.91
Blue Lake	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
Kalkaska	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
285B:					
Halfaday	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Kinross	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.37
		Thickest layer	0.00	Bottom layer	0.95
286B:					
Greylock	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.03
Cookson	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
287B:					
McMaster	55	Fair		Fair	
		Bottom layer	0.43	Bottom layer	0.43
		Thickest layer	0.43	Thickest layer	0.43
Davies	35	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
290A:					
Namur, very stony	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ruse, very stony	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
292B:					
Mashek, sandy substratum	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.74	Bottom layer	0.74
296D:					
Islandlake	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
McMillan	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.35
		Thickest layer	0.00	Thickest layer	0.58
296E:					
Islandlake	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
McMillan	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.35
		Thickest layer	0.00	Thickest layer	0.58
297B:					
Rubicon, severely burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
297D:					
Rubicon, severely burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
298B:					
Wurtsmith	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.71
		Thickest layer	0.00	Thickest layer	0.91
Deford	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
299F:					
Shelldrake	99	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.95
300F:					
Shelldrake	61	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.95
Dune land	38	Not rated		Not rated	
301F:					
Cookson, dissected	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
301F:					
Nykanen, dissected--	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
302B:					
Dillingham----------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.75
Kalkaska----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
302D:					
Dillingham----------	52	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.68
Kalkaska----------	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
302E:					
Dillingham----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.68
Kalkaska----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
302F:					
Dillingham----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.68
Kalkaska----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
303B:					
Kiva----------	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.57
Trenary----------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
303D:					
Kiva----------	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.57
Trenary----------	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
303E:					
Kiva	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.57
Trenary	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
305B:					
Wurtsmith	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.71
		Thickest layer	0.00	Thickest layer	0.91
Meehan	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.71
		Thickest layer	0.00	Thickest layer	0.91
306C:					
Deerton, dissected	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
Tokiahok, dissected	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Jeske, dissected	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.21
		Thickest layer	0.00	Bottom layer	0.52
307B:					
Rubicon, very deep water table	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
307D:					
Rubicon, very deep water table	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
308B:					
Rubicon	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
Sultz	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.25
308D:					
Rubicon	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
Sultz	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.25

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
309B:					
Rubicon, deep water table	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
309D:					
Rubicon, deep water table	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.82
		Thickest layer	0.00	Thickest layer	0.82
310B:					
Kalkaska, burned	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
310D:					
Kalkaska, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
310E:					
Kalkaska, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
311B:					
Kalkaska, very deep water table, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
311D:					
Kalkaska, very deep water table, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
312B:					
Islandlake, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
312D:					
Islandlake, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
313B:					
Kalkaska, deep water table, burned	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
314B:					
Blue Lake, very deep water table, burned	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
315B:					
Blue Lake, deep water table, burned	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
316B:					
Blue Lake, burned---	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
316D:					
Blue Lake, burned---	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.36
317B:					
Kalkaska, very deep water table--------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
317D:					
Kalkaska, very deep water table--------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
318B:					
Islandlake, very deep water table---	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
318D:					
Islandlake, very deep water table---	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
319B:					
Islandlake----------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
319D:					
Islandlake----------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
319E:					
Islandlake----------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79
319F:					
Islandlake----------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.79

Table 14a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
320B:					
Kalkaska, deep water table	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
321B:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Deerton	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42
321D:					
Kalkaska	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Deerton	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.00	Bottom layer	0.42

Table 14b.--Construction Materials

(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 as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10:							
Beaches	100	Not rated		Not rated		Not rated	
11C:							
Deer Park	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.88
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.79				
11E:							
Deer Park	95	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.92	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12			Too acid	0.88
		Too acid	0.50				
		Droughty	0.79				
11F:							
Deer Park	98	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Too acid	0.88
		Too acid	0.50				
		Droughty	0.79				
12B:							
Rubicon	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
12D:							
Rubicon	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
12E:							
Rubicon	95	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
13B:							
Kalkaska	94	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
13D:							
Kalkaska	96	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
13E:							
Kalkaska	100	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
15A:							
Croswell	92	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.53
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
16A:							
Paquin	90	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to cemented pan	0.00
		Droughty	0.00	Wetness	0.53	Wetness	0.53
		Depth to cemented pan	0.00			Too acid	0.92
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
17A:							
Au Gres	92	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.76
		Too acid	0.50				
		Droughty	0.83				
18:							
Kinross	92	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
19:							
Deford	92	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.99
		Too acid	0.50				
21A:							
Ingalls	90	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.76
		Too acid	0.50				
24B:							
Munising	90	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20				
25B:							
Munising	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20				
Yalmer	30	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.10
		Too acid	0.00			Too acid	0.68
		Depth to cemented pan	0.10				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
25D:							
Munising----------	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20			Slope	0.63
Yalmer----------	30	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.10
		Too acid	0.00			Slope	0.63
		Depth to cemented pan	0.10			Too acid	0.68
31D:							
Trenary----------	85	Fair		Good		Fair	
		Organic matter content (low)	0.12			Slope	0.84
		Too acid	0.50				
33:							
Ensley----------	90	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
35B:							
Munising, calcareous substratum---------	40	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.05
		Depth to cemented pan	0.05			Too acid	0.88
		Droughty	0.06				
Yalmer, calcareous substratum---------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Too acid	0.00			Depth to cemented pan	0.36
		Depth to cemented pan	0.36			Too sandy	0.47
		Too sandy	0.47				
Frohling, calcareous substratum---------	20	Fair		Poor		Fair	
		Depth to cemented pan	0.10	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Too acid	0.20			Too acid	0.76
		Droughty	0.43				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
37B:							
Grand Sable---------	90	Fair		Good		Fair	
		Too sandy	0.14			Too sandy	0.14
		Too acid	0.26				
		Organic matter content (low)	0.88				
		Droughty	0.99				
37E:							
Grand Sable---------	98	Fair		Poor		Poor	
		Too sandy	0.14	Slope	0.00	Slope	0.00
		Too acid	0.26			Too sandy	0.14
		Organic matter content (low)	0.88				
		Droughty	0.99				
38B:							
Rhody----------	60	Fair		Poor		Poor	
		Droughty	0.65	Wetness	0.00	Wetness	0.00
		Too acid	0.84	Depth to bedrock	0.00	Depth to bedrock	0.93
		Depth to bedrock	0.93				
Towes----------	30	Fair		Poor		Poor	
		Depth to bedrock	0.21	Depth to bedrock	0.00	Wetness	0.00
		Too acid	0.61	Wetness	0.00	Depth to bedrock	0.21
		Droughty	0.72			Too acid	0.99
40B:							
Waiska, very stony--	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Too acid	0.95
42:							
Davies----------	90	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Organic matter content (low)	0.12	Cobble content	0.06	Wetness	0.00
		Droughty	0.32			Rock fragments	0.00
		Too acid	0.68			Hard to reclaim (rock fragments)	0.00
		Cobble content	0.79				
46:							
Jacobsville, very stony----------	90	Fair		Poor		Poor	
		Too acid	0.61	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.88	Depth to bedrock	0.00	Depth to bedrock	0.93
		Depth to bedrock	0.93				
47C:							
Deerton----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.16
		Droughty	0.00			Too acid	0.76
		Depth to bedrock	0.16				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
47C:							
Au Train	30	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.00
		Depth to bedrock	0.00			Too acid	0.12
		Too acid	0.50				
47E:							
Deerton	55	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Slope	0.50	Slope	0.00
		Droughty	0.00			Depth to bedrock	0.16
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				
Au Train	30	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.00
		Depth to bedrock	0.00			Too acid	0.12
		Too acid	0.50			Slope	0.37
48:							
Burt	90	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
49B:							
Cookson	90	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.93
		Organic matter content (low)	0.68				
		Depth to bedrock	0.93				
51:							
Nahma	50	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.54	Depth to bedrock	0.00	Organic matter content (high)	0.00
		Water erosion	0.90				
		Carbonate content	0.92			Depth to bedrock	0.54
Ruse	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Carbonate content	0.92			Organic matter content (low)	0.78
						Rock fragments	0.97

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
52B:							
Summerville---------	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00				
		Organic matter content (low)	0.88				
		Too acid	0.88				
		Water erosion	0.90				
57:							
Carbondale----------	30	Fair		Poor		Poor	
		Too acid	0.99	Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
Lupton----------	30	Good		Poor		Poor	
				Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
Tawas----------	30	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50			Organic matter content (high)	0.00
						Too acid	0.92
58:							
Dawson----------	30	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50			Organic matter content (high)	0.00
						Too acid	0.00
Greenwood----------	30	Fair		Poor		Poor	
		Too acid	0.03	Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
						Too acid	0.32
Loxley----------	30	Fair		Poor		Poor	
		Too acid	0.50	Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
						Too acid	0.41
59:							
Chippeny----------	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.35	Depth to bedrock	0.00	Organic matter content (high)	0.00
		Water erosion	0.90			Depth to bedrock	0.35
		Carbonate content	0.92				
Nahma----------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.54	Depth to bedrock	0.00	Organic matter content (high)	0.00
		Water erosion	0.90			Depth to bedrock	0.54
		Carbonate content	0.92				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
60:							
Histosols	50	Not rated		Poor		Poor	
				Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
Aquents	50	Poor		Poor		Poor	
		Organic matter content (low)	0.00	Wetness	0.00	Wetness	0.00
61:							
Pits	100	Not rated		Not rated		Not rated	
62F:							
Udipsamments	50	Not rated		Not rated		Not rated	
Udorthents	50	Not rated		Not rated		Not rated	
64B:							
Kiva	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.50
		Droughty	0.24				
		Too acid	0.61				
64D:							
Kiva	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.50
		Droughty	0.24				
		Too acid	0.61			Slope	0.84
65D:							
Jeske, bedrock terrace	45	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.01
		Depth to bedrock	0.01				
		Organic matter content (low)	0.12				
		Too acid	0.50				
Gongeau, bedrock terrace	25	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Droughty	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
65D:							
Deerton, bedrock terrace	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.16
		Droughty	0.00			Slope	0.16
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				
65F:							
Jeske, bedrock terrace	45	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.01
		Depth to bedrock	0.01				
		Organic matter content (low)	0.12				
		Too acid	0.50				
Gongeau, bedrock terrace	25	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Droughty	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
Deerton, bedrock terrace	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00			Depth to bedrock	0.16
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				
66D:							
Ruse, bedrock terrace	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Wetness	0.00
		Droughty	0.00	Wetness	0.00	Depth to bedrock	0.00
		Water erosion	0.90			Organic matter content (low)	0.78
		Carbonate content	0.92				
		Too acid	0.95				
Ensign, bedrock terrace	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Water erosion	0.99				
Nykanen, bedrock terrace	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Too acid	0.50			Slope	0.37
		Water erosion	0.99			Rock fragments	0.88
						Too acid	0.95

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
66F:							
Ruse, bedrock terrace	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Water erosion	0.90			Organic matter content (low)	0.78
		Carbonate content	0.92				
		Too acid	0.95				
Ensign, bedrock terrace	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Water erosion	0.99				
Nykanen, bedrock terrace	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Water erosion	0.99			Rock fragments	0.88
						Too acid	0.95
68:							
Pits, quarry	100	Not rated		Not rated		Not rated	
69B:							
Escanaba	85	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.14
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.88
		Too sandy	0.14				
		Too acid	0.61				
		Carbonate content	0.92				
71A:							
Evart	70	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Organic matter content (low)	0.12			Wetness	0.00
		Too acid	0.99				
Sturgeon	20	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Organic matter content (low)	0.88			Wetness	0.00
		Too acid	0.92				
72E:							
Deerton, dissected	40	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Slope	0.18	Slope	0.00
		Droughty	0.00			Depth to bedrock	0.16
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
72E:							
Tokiahok, dissected	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.00	Slope	0.18	Depth to cemented pan	0.10
		Depth to cemented pan	0.10			Too sandy	0.36
		Too acid	0.20			Too acid	0.99
		Too sandy	0.36				
Trout Bay, dissected	15	Poor		Poor		Poor	
		Depth to bedrock	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.84	Depth to bedrock	0.00	Organic matter content (high)	0.00
				Slope	0.98	Slope	0.00
						Depth to bedrock	0.00
72F:							
Deerton, dissected--	40	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Slope	0.00
		Wind erosion	0.00	Slope	0.00	Too sandy	0.00
		Droughty	0.00			Depth to bedrock	0.16
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				
Tokiahok, dissected	25	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Depth to cemented pan	0.10
		Depth to cemented pan	0.10			Too sandy	0.36
		Too acid	0.20			Too acid	0.99
		Too sandy	0.36				
Trout Bay, dissected	20	Poor		Poor		Poor	
		Depth to bedrock	0.00	Wetness	0.00	Slope	0.00
		Too acid	0.84	Depth to bedrock	0.00	Wetness	0.00
				Slope	0.50	Organic matter content (high)	0.00
						Depth to bedrock	0.00
76C:							
Garlic, dissected---	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Blue Lake, dissected	30	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
76C:							
Voelker, dissected--	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to cemented pan	0.00
		Droughty	0.00				
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.50				
76E:							
Garlic, dissected---	40	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.18	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Blue Lake, dissected	30	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.18	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Voelker, dissected--	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00	Slope	0.18	Depth to cemented pan	0.00
		Droughty	0.00			Slope	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.50				
76F:							
Garlic, dissected---	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Blue Lake, dissected	30	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Voelker, dissected--	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.00	Slope	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
77B:							
Garlic	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Blue Lake	30	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
Voelker	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to cemented pan	0.00
		Droughty	0.00			Too acid	0.88
		Depth to cemented pan	0.00				
		Too acid	0.50				
77D:							
Garlic	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.84
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Blue Lake	30	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Slope	0.84
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Voelker	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to cemented pan	0.00
		Droughty	0.00			Slope	0.84
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.50				
77E:							
Garlic	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
77E:							
Blue Lake----------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Voelker----------	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.00	Slope	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.50				
88:							
Cathro----------	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Organic matter content (high)	0.00
		Too acid	0.84			Hard to reclaim (rock fragments)	0.88
		Carbonate content	0.92				
Ensley----------	35	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
93:							
Tawas----------	70	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Organic matter content (high)	0.00
		Too acid	0.50			Too acid	0.92
Deford----------	20	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.99
		Too acid	0.50				
95B:							
Liminga----------	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.12
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
104C:							
Fence, dissected----	90	Fair		Fair		Fair	
		Organic matter content (low)	0.12	Wetness	0.14	Wetness	0.14
		Too acid	0.39				
		Water erosion	0.90				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
109D:							
Rousseau	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12			Too acid	0.98
		Too acid	0.54				
		Droughty	0.80				
Dawson	45	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50			Organic matter content (high)	0.00
						Too acid	0.00
109F:							
Rousseau	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12			Too acid	0.98
		Too acid	0.54				
		Droughty	0.80				
Dawson	40	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50			Organic matter content (high)	0.00
						Too acid	0.00
125B:							
Stutts	65	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
Kalkaska	35	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.50
		Organic matter content (low)	0.12				
		Droughty	0.44				
		Too acid	0.50				
125D:							
Stutts	65	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
125D:							
Kalkaska----------	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.50
		Organic matter content (low)	0.12			Slope	0.63
		Droughty	0.44				
		Too acid	0.50				
125E:							
Stutts----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
Kalkaska----------	45	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Too acid	0.50
		Droughty	0.44				
		Too acid	0.50				
135B:							
Munising, calcareous substratum---------	65	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too acid	0.88
		Droughty	0.01				
Ensley----------	25	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
145C:							
Munising, dissected, very stony---------	50	Poor		Poor		Poor	
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to cemented pan	0.01	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Too acid	0.12			Too sandy	0.20
		Too sandy	0.20			Too acid	0.59
Yalmer, dissected, very stony---------	35	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Too acid	0.00			Depth to cemented pan	0.10
		Depth to cemented pan	0.10			Too acid	0.68

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
146B:							
Munising, stony-----	60	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20				
Skanee, stony-------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.68
		Too acid	0.12				
147A:							
Skanee, very stony--	55	Poor		Poor		Poor	
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Too acid	0.12			Too acid	0.68
Gay, very stony-----	35	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50				
148B:							
Shoepac----------	70	Poor		Fair		Fair	
		Too acid	0.00	Wetness	0.14	Too sandy	0.10
		Too sandy	0.10			Wetness	0.14
		Organic matter content (low)	0.12			Rock fragments	0.88
						Hard to reclaim (rock fragments)	0.92
						Too acid	0.98
Ensley----------	20	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
155A:							
Zeba, very stony----	55	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
				Depth to bedrock	0.00	Depth to bedrock	0.79
		Droughty	0.47			Too acid	0.98
		Too acid	0.50			Rock fragments	0.99
		Depth to bedrock	0.79				
Jacobsville, very stony----------	30	Fair		Poor		Poor	
		Too acid	0.61	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.88	Depth to bedrock	0.00	Depth to bedrock	0.93
		Depth to bedrock	0.93				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
157B:							
Reade	45	Fair		Poor		Poor	
		Droughty	0.12	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12	Depth to bedrock	0.00	Depth to bedrock	0.35
		Depth to bedrock	0.35			Rock fragments	0.50
		Too acid	0.50				
Nahma	40	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.54	Depth to bedrock	0.00	Organic matter content (high)	0.00
		Water erosion	0.90			Depth to bedrock	0.54
		Carbonate content	0.92				
158C:							
Munising, dissected, stony	50	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20				
Abbaye, dissected, stony	35	Fair		Poor		Poor	
		Droughty	0.44	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71				
160B:							
Paquin	55	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.53	Depth to cemented pan	0.00
		Droughty	0.00			Wetness	0.53
		Depth to cemented pan	0.00			Too acid	0.92
		Too acid	0.50				
Finch	45	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.08				
161B:							
Yellowdog, stony	50	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Cobble content	0.11	Rock fragments	0.00
		Droughty	0.00			Depth to bedrock	0.71
		Cobble content	0.50			Too acid	0.88
		Too acid	0.50				
		Depth to bedrock	0.71				
		Organic matter content (low)	0.88				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
161B:							
Buckroe, stony------	40	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.00
		Droughty	0.00			Depth to bedrock	0.00
		Depth to bedrock	0.00			Too acid	0.76
		Too acid	0.50				
		Organic matter content (low)	0.88				
165B:							
Chocolay, very stony	55	Poor		Poor		Poor	
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Stone content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.29	Stone content	0.11	Depth to bedrock	0.29
		Too acid	0.50	Cobble content	0.92	Too acid	0.99
		Cobble content	0.98				
Waiska, very stony--	30	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Too acid	0.95
166:							
Skandia----------	85	Fair		Poor		Poor	
		Depth to bedrock	0.21	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Organic matter content (high)	0.00
						Depth to bedrock	0.21
						Too acid	0.24
167:							
Skandia, stony------	55	Fair		Poor		Poor	
		Depth to bedrock	0.21	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Organic matter content (high)	0.00
						Depth to bedrock	0.21
						Too acid	0.24
Jacobsville, stony--	35	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.61	Depth to bedrock	0.00	Depth to bedrock	0.93
		Organic matter content (low)	0.88				
		Depth to bedrock	0.93				
170B:							
Chocolay, very stony	90	Poor		Poor		Poor	
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Stone content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.29	Stone content	0.11	Depth to bedrock	0.29
		Too acid	0.50	Cobble content	0.92	Too acid	0.99
		Cobble content	0.98				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
171B:							
Paavola, very stony	90	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Too acid	0.46	Cobble content	0.99	Rock fragments	0.00
		Depth to cemented pan	0.46			Depth to cemented pan	0.46
172D:							
Buckroe, very bouldery	70	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Too acid	0.50			Slope	0.00
		Organic matter content (low)	0.88			Too acid	0.76
Rock outcrop	15	Not rated		Not rated		Not rated	
172F:							
Buckroe, very bouldery	70	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Too sandy	0.00
		Depth to bedrock	0.00			Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.00
		Organic matter content (low)	0.88			Too acid	0.76
Rock outcrop	15	Not rated		Not rated		Not rated	
176B:							
Croswell	50	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.53
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
Kinross	40	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
181E:							
Frohling, dissected, stony	60	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00	Slope	0.18	Slope	0.00
		Too acid	0.50			Too acid	0.92
		Too sandy	0.99			Rock fragments	0.95
						Too sandy	0.99

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
181E:							
Tokiahok, dissected, stony	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to cemented pan	0.10	Slope	0.18	Depth to cemented pan	0.10
		Too acid	0.20			Too sandy	0.36
		Too sandy	0.36			Too acid	0.99
185B:							
McMaster	90	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Droughty	0.09	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
		Too acid	0.50			Wetness	0.53
186B:							
Chatham, stony	85	Poor		Fair		Poor	
		Stone content	0.00	Stone content	0.74	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12			Rock fragments	0.50
		Too acid	0.61				
		Carbonate content	0.92				
186D:							
Chatham, stony	85	Poor		Fair		Poor	
		Stone content	0.00	Stone content	0.74	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12			Rock fragments	0.50
		Too acid	0.61			Slope	0.63
		Carbonate content	0.92				
187B:							
Reade	85	Fair		Poor		Poor	
		Droughty	0.12	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12	Depth to bedrock	0.00	Depth to bedrock	0.35
		Depth to bedrock	0.35			Rock fragments	0.50
		Too acid	0.50				
188B:							
Eben, stony	85	Poor		Poor		Poor	
		Stone content	0.00	Stone content	0.00	Hard to reclaim (rock fragments)	0.00
		Droughty	0.11	Cobble content	0.50	Rock fragments	0.00
		Organic matter content (low)	0.12				
		Carbonate content	0.68				
188D:							
Eben, stony	90	Poor		Poor		Poor	
		Stone content	0.00	Stone content	0.00	Hard to reclaim (rock fragments)	0.00
		Droughty	0.11	Cobble content	0.50	Rock fragments	0.00
		Organic matter content (low)	0.12			Slope	0.63
		Carbonate content	0.68				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
188E:							
Eben, stony---------	90	Poor		Poor		Poor	
		Stone content	0.00	Slope	0.00	Slope	0.00
		Droughty	0.11	Stone content	0.00	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12	Cobble content	0.50	Rock fragments	0.00
		Carbonate content	0.68				
191B:							
Ruse----------	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Carbonate content	0.92			Organic matter content (low)	0.78
						Rock fragments	0.97
Ensign----------	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Wetness	0.00
		Droughty	0.00	Wetness	0.00	Depth to bedrock	0.00
		Organic matter content (low)	0.88				
		Too acid	0.99				
197B:							
Shoepac----------	50	Poor		Fair		Fair	
		Too acid	0.00	Wetness	0.14	Too sandy	0.10
		Too sandy	0.10			Wetness	0.14
		Organic matter content (low)	0.12			Rock fragments	0.88
						Hard to reclaim (rock fragments)	0.92
						Too acid	0.98
Trenary----------	40	Fair		Good		Good	
		Organic matter content (low)	0.12				
		Too acid	0.50				
198B:							
Shoepac----------	60	Poor		Fair		Fair	
		Too acid	0.00	Wetness	0.14	Too sandy	0.10
		Too sandy	0.10			Wetness	0.14
		Organic matter content (low)	0.12			Rock fragments	0.88
						Hard to reclaim (rock fragments)	0.92
						Too acid	0.98
Reade----------	30	Fair		Poor		Poor	
		Droughty	0.12	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12	Depth to bedrock	0.00	Depth to bedrock	0.35
		Depth to bedrock	0.35			Rock fragments	0.50
		Too acid	0.50				
200A:							
Charlevoix----------	55	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50			Rock fragments	0.24
		Carbonate content	0.92			Hard to reclaim (rock fragments)	0.82

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
200A:							
Ensley	30	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
202B:							
Sauxhead, very stony	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Rock fragments	0.00
		Too sandy	0.20			Depth to bedrock	0.00
		Too acid	0.50			Too sandy	0.20
		Organic matter content (low)	0.88			Too acid	0.95
206B:							
Traunik	90	Poor		Fair		Poor	
		Too sandy	0.00	Cobble content	0.89	Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
		Droughty	0.17				
		Too acid	0.50				
206D:							
Traunik	90	Poor		Fair		Poor	
		Too sandy	0.00	Cobble content	0.89	Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
		Droughty	0.17				
		Too acid	0.50			Slope	0.84
211B:							
Munising	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.20
		Too acid	0.12			Too acid	0.59
		Too sandy	0.20				
Abbaye	35	Fair		Poor		Poor	
		Droughty	0.44	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71				
214B:							
Kalkaska	60	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
214B:							
Blue Lake----------	30	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
214D:							
Kalkaska----------	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Blue Lake----------	35	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Slope	0.63
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
214E:							
Kalkaska----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Blue Lake----------	35	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
221B:							
Jeske----------	40	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.01
		Depth to bedrock	0.01				
		Organic matter content (low)	0.12				
		Too acid	0.50				
Au Train----------	30	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.00
		Depth to bedrock	0.00			Too acid	0.12
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
221B:							
Gongeau	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Droughty	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
225B:							
Cusino	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.88
		Organic matter content (low)	0.12			Too acid	0.98
		Droughty	0.24				
		Too acid	0.50				
225D:							
Cusino	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12			Rock fragments	0.88
		Droughty	0.24			Too acid	0.98
		Too acid	0.50				
226B:							
Kalkaska	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Cusino	45	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.88
		Organic matter content (low)	0.12			Too acid	0.98
		Droughty	0.24				
		Too acid	0.50				
226D:							
Kalkaska	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
226D:							
Cusino	45	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12			Rock fragments	0.88
						Too acid	0.98
		Droughty	0.24				
		Too acid	0.50				
226E:							
Kalkaska	50	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Cusino	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.88
						Too acid	0.98
		Droughty	0.24				
		Too acid	0.50				
226F:							
Kalkaska	50	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Cusino	35	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.88
						Too acid	0.98
		Droughty	0.24				
		Too acid	0.50				
227A:							
Halfaday	90	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.53
		Organic matter content (low)	0.12			Too acid	0.76
		Too acid	0.50				
		Droughty	0.95				
232B:							
Shelldrake	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.24
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.62				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
233B:							
Abbaye, very stony--	50	Fair		Poor		Poor	
		Droughty	0.44	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71				
Zeba, very stony----	35	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
				Depth to bedrock	0.00	Depth to bedrock	0.79
		Droughty	0.47			Too acid	0.98
		Too acid	0.50			Rock fragments	0.99
		Depth to bedrock	0.79				
234A:							
Levasseur, very stony----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.00
		Cobble content	0.61			Too acid	0.12
		Stone content	0.93				
Burt, very stony----	35	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
235B:							
Sauxhead, very stony	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Rock fragments	0.00
		Too sandy	0.20			Depth to bedrock	0.00
		Too acid	0.50			Too sandy	0.20
		Organic matter content (low)	0.88			Too acid	0.95
Burt, very stony----	30	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
236B:							
Waiska, extremely bouldery----------	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Too acid	0.95

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
236D:							
Waiska, extremely bouldery	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Slope	0.84
						Too acid	0.95
237B:							
Chatham	65	Poor		Fair		Poor	
		Stone content	0.00	Stone content	0.74	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12			Rock fragments	0.50
		Too acid	0.61				
		Carbonate content	0.92				
Davies	20	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Organic matter content (low)	0.12	Cobble content	0.06	Wetness	0.00
		Droughty	0.32			Rock fragments	0.00
		Too acid	0.68			Hard to reclaim (rock fragments)	0.00
		Cobble content	0.79				
239B:							
Longrie	50	Fair		Poor		Fair	
		Too acid	0.74	Depth to bedrock	0.00	Depth to bedrock	0.93
		Droughty	0.81				
		Carbonate content	0.92				
		Depth to bedrock	0.93				
Shingleton	40	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00			Too sandy	0.38
		Depth to bedrock	0.00			Too acid	0.59
		Too sandy	0.38				
		Too acid	0.50				
240F:							
Trout Bay	30	Poor		Poor		Poor	
		Depth to bedrock	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.84	Depth to bedrock	0.00	Organic matter content (high)	0.00
				Slope	0.98	Slope	0.00
						Depth to bedrock	0.00
Gongeau	25	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Droughty	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
240F:							
Shingleton----------	20	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00			Too sandy	0.38
		Too sandy	0.38			Too acid	0.59
		Too acid	0.50				
Rock outcrop--------	15	Not rated		Not rated		Not rated	
241:							
Cathro----------	55	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.95			Organic matter content (high)	0.00
Gay----------	35	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.50				
242B:							
Kalkaska, severely burned----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
242D:							
Kalkaska, severely burned----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
242F:							
Kalkaska, severely burned----------	90	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
243:							
Markey----------	95	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
245B:							
Trout Bay	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.84	Depth to bedrock	0.00	Organic matter content (high)	0.00
						Depth to bedrock	0.00
Lupton	30	Good		Poor		Poor	
				Wetness	0.00	Wetness	0.00
						Organic matter content (high)	0.00
Gongeau	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Droughty	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
246B:							
Garlic	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
246D:							
Garlic	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
246E:							
Garlic	90	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
248B:							
Escanaba	50	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.14
		Organic matter content (low)	0.12			Hard to reclaim (rock fragments)	0.88
		Too sandy	0.14				
		Too acid	0.61				
		Carbonate content	0.92				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
248B:							
Greylock	40	Fair		Good		Good	
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Carbonate content	0.92				
248D:							
Escanaba	50	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.14
		Organic matter content (low)	0.12			Slope	0.63
		Too sandy	0.14			Hard to reclaim (rock fragments)	0.88
		Too acid	0.61				
		Carbonate content	0.92				
Greylock	40	Fair		Good		Fair	
		Organic matter content (low)	0.12			Slope	0.63
		Too acid	0.50				
		Carbonate content	0.92				
248E:							
Escanaba	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.14
		Too sandy	0.14			Hard to reclaim (rock fragments)	0.88
		Too acid	0.61				
		Carbonate content	0.92				
Greylock	40	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50				
		Carbonate content	0.92				
249B:							
Sauxhead	55	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Rock fragments	0.00
		Too sandy	0.20			Depth to bedrock	0.00
		Too acid	0.50			Too sandy	0.20
		Organic matter content (low)	0.88			Too acid	0.95
Skandia	35	Fair		Poor		Poor	
		Depth to bedrock	0.21	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Depth to bedrock	0.00	Organic matter content (high)	0.00
						Depth to bedrock	0.21
						Too acid	0.24

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
250B:							
Chocolay, extremely stony	55	Poor		Poor		Poor	
		Droughty	0.00	Wetness	0.00	Wetness	0.00
		Stone content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.29	Stone content	0.11	Depth to bedrock	0.29
		Too acid	0.50	Cobble content	0.92	Too acid	0.99
		Cobble content	0.98				
Jacobsville, extremely stony	30	Fair		Poor		Poor	
		Too acid	0.61	Wetness	0.00	Wetness	0.00
		Organic matter content (low)	0.88	Depth to bedrock	0.00	Depth to bedrock	0.93
		Depth to bedrock	0.93				
251B:							
Greylock	90	Fair		Good		Good	
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Carbonate content	0.92				
251D:							
Greylock	85	Fair		Good		Fair	
		Organic matter content (low)	0.12			Slope	0.63
		Too acid	0.50				
		Carbonate content	0.92				
252A:							
Finch	50	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.08				
Kinross	40	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				
254C:							
Kalkaska, dissected	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
254C:							
Blue Lake, dissected	35	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
254E:							
Kalkaska, dissected	55	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.18	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Blue Lake, dissected	35	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.18	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
254F:							
Kalkaska, dissected	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Blue Lake, dissected	35	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
255D:							
Wallace----------	95	Poor		Poor		Poor	
		Too sandy	0.00	Depth to cemented pan	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to cemented pan	0.00
		Droughty	0.00			Too acid	0.50
		Depth to cemented pan	0.00				
		Too acid	0.08				
256B:							
Whitewash----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.00				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
266A:							
Spot	50	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Depth to cemented pan	0.00			Depth to cemented pan	0.00
		Too acid	0.50			Too acid	0.68
		Organic matter content (low)	0.88				
Finch	40	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.08				
267A:							
Finch	85	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Too acid	0.88
		Too acid	0.08				
268C:							
Munising, calcareous substratum, dissected	40	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too acid	0.88
		Droughty	0.01				
Frohling, calcareous substratum, dissected	30	Fair		Poor		Fair	
		Depth to cemented pan	0.10	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Too acid	0.20			Too acid	0.76
		Droughty	0.43				
Cookson, dissected	20	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.93
		Organic matter content (low)	0.68				
		Depth to bedrock	0.93				
269E:							
Frohling, calcareous substratum, dissected	50	Fair		Poor		Poor	
		Depth to cemented	0.10	Depth to cemented pan	0.00	Slope	0.00
		Too acid	0.20			Depth to cemented pan	0.10
		Droughty	0.43	Slope	0.18		
						Too acid	0.76

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
269E:							
Garlic, dissected---	20	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.18	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.97				
Cookson, dissected--	20	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Organic matter content (low)	0.68	Slope	0.18	Depth to bedrock	0.93
		Depth to bedrock	0.93				
272C:							
Munising, calcareous substratum, dissected----------	40	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too acid	0.88
		Droughty	0.01				
Yalmer, calcareous substratum, dissected----------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Too acid	0.00			Depth to cemented pan	0.36
		Depth to cemented pan	0.36			Too sandy	0.47
		Too sandy	0.47				
Frohling, calcareous substratum, dissected----------	20	Fair		Poor		Fair	
		Depth to cemented pan	0.10	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Too acid	0.20			Too acid	0.76
		Droughty	0.43				
275B:							
Munising, calcareous substratum---------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.05
		Depth to cemented pan	0.05			Too acid	0.88
		Droughty	0.06				
Cookson----------	40	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.93
		Organic matter content (low)	0.68				
		Depth to bedrock	0.93				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
281E:							
Mongo, dissected----	95	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Too clayey	0.00
		Organic matter content (low)	0.12	Low strength	0.00	Slope	0.00
				Shrink-swell	0.91		
		Too acid	0.50				
		Carbonate content	0.92				
282B:							
Furlong----------	50	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.03
		Droughty	0.00			Too acid	0.68
		Depth to bedrock	0.03				
		Too acid	0.50				
Shingleton----------	40	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00			Too sandy	0.38
		Depth to bedrock	0.00			Too acid	0.59
		Too sandy	0.38				
		Too acid	0.50				
282D:							
Furlong----------	50	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.03
		Droughty	0.00			Slope	0.63
		Depth to bedrock	0.03			Too acid	0.68
		Too acid	0.50				
Shingleton----------	40	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00			Too sandy	0.38
		Depth to bedrock	0.00			Too acid	0.59
		Too sandy	0.38			Slope	0.63
		Too acid	0.50				
284B:							
Steuben----------	40	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too acid	0.88
		Too acid	0.32				
Blue Lake----------	30	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
Kalkaska----------	20	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
284D:							
Steuben----------	40	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Slope	0.63
		Too acid	0.32			Too acid	0.88
Blue Lake----------	25	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Slope	0.63
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Kalkaska----------	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
284E:							
Steuben----------	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to cemented pan	0.01	Slope	0.00	Depth to cemented pan	0.01
		Too acid	0.32			Too acid	0.88
Blue Lake----------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.30
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
Kalkaska----------	20	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
285B:							
Halfaday----------	50	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.53
		Organic matter content (low)	0.12			Too acid	0.76
		Too acid	0.50				
		Droughty	0.95				
Kinross----------	40	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Droughty	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
286B:							
Greylock	50	Fair		Good		Good	
		Organic matter content (low)	0.12				
		Too acid	0.50				
		Carbonate content	0.92				
Cookson	40	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Depth to bedrock	0.93
		Organic matter content (low)	0.68				
		Depth to bedrock	0.93				
287B:							
McMaster	55	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Droughty	0.09	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
		Too acid	0.50			Wetness	0.53
Davies	35	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Organic matter content (low)	0.12	Cobble content	0.06	Wetness	0.00
		Droughty	0.32			Rock fragments	0.00
		Too acid	0.68			Hard to reclaim (rock fragments)	0.00
		Cobble content	0.79				
290A:							
Namur, very stony	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00			Rock fragments	0.88
		Too acid	0.99				
Ruse, very stony	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Wetness	0.00
		Depth to bedrock	0.00	Wetness	0.00	Depth to bedrock	0.00
		Carbonate content	0.92			Organic matter content (low)	0.78
						Rock fragments	0.97
292B:							
Mashek, sandy substratum	90	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.54			Hard to reclaim (rock fragments)	0.88
296D:							
Islandlake	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.84
		Too acid	0.00			Too acid	0.98
		Droughty	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
296D:							
McMillan----------	35	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Too acid	0.59
		Too acid	0.50			Slope	0.84
		Droughty	0.58				
296E:							
Islandlake----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Too acid	0.00			Too acid	0.98
		Droughty	0.92				
McMillan----------	35	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.00
		Too acid	0.50			Too acid	0.59
		Droughty	0.58				
297B:							
Rubicon, severely burned----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.97
		Organic matter content (low)	0.12				
		Droughty	0.27				
		Too acid	0.50				
297D:							
Rubicon, severely burned----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.74
		Organic matter content (low)	0.12			Rock fragments	0.97
		Droughty	0.27				
		Too acid	0.50				
298B:							
Wurtsmith----------	55	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Too acid	0.24
		Organic matter content (low)	0.12			Wetness	0.53
		Too acid	0.50				
		Droughty	0.51				
Deford----------	35	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.99
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
299F:							
Shelldrake----------	99	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12			Too acid	0.24
		Too acid	0.50				
		Droughty	0.62				
300F:							
Shelldrake----------	61	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content (low)	0.12			Too acid	0.24
		Too acid	0.50				
		Droughty	0.62				
Dune land----------	38	Not rated		Not rated		Not rated	
301F:							
Cookson, dissected--	55	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Organic matter content (low)	0.68	Slope	0.00	Depth to bedrock	0.93
		Depth to bedrock	0.93				
Nykanen, dissected--	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Slope	0.00	Depth to bedrock	0.00
		Water erosion	0.99			Rock fragments	0.88
						Too acid	0.95
302B:							
Dillingham----------	45	Poor		Poor		Fair	
		Wind erosion	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Droughty	0.00			Too sandy	0.23
		Depth to cemented pan	0.01			Too acid	0.32
		Too sandy	0.23				
		Too acid	0.50				
Kalkaska----------	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
302D:							
Dillingham----------	52	Poor		Poor		Fair	
		Wind erosion	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Droughty	0.00			Too sandy	0.01
		Depth to cemented pan	0.01			Slope	0.63
		Too sandy	0.01			Too acid	0.82
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
302D:							
Kalkaska----------	45	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
302E:							
Dillingham----------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.01
		Too sandy	0.01			Too acid	0.82
		Too acid	0.50				
Kalkaska----------	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
302F:							
Dillingham----------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Depth to cemented pan	0.01			Too sandy	0.01
		Too sandy	0.01			Too acid	0.82
		Too acid	0.50				
Kalkaska----------	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
303B:							
Kiva----------	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
		Droughty	0.24			Hard to reclaim (rock fragments)	0.50
		Too acid	0.61				
Trenary----------	30	Fair		Good		Good	
		Organic matter content (low)	0.12				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
303D:							
Kiva----------	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content (low)	0.12			Rock fragments	0.00
		Droughty	0.24			Hard to reclaim (rock fragments)	0.50
		Too acid	0.61			Slope	0.84
Trenary----------	30	Fair		Good		Fair	
		Organic matter content (low)	0.12			Slope	0.84
		Too acid	0.50				
303E:							
Kiva----------	55	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Organic matter content (low)	0.12			Too sandy	0.00
		Droughty	0.24			Rock fragments	0.00
		Too acid	0.61			Hard to reclaim (rock fragments)	0.50
Trenary----------	30	Fair		Poor		Poor	
		Organic matter content (low)	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50				
305B:							
Wurtsmith----------	55	Poor		Fair		Poor	
		Too sandy	0.00	Wetness	0.53	Too sandy	0.00
		Wind erosion	0.00			Too acid	0.24
		Organic matter content (low)	0.12			Wetness	0.53
		Too acid	0.50				
		Droughty	0.51				
Meehan----------	40	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness	0.00
		Organic matter content (low)	0.12			Too acid	0.59
		Droughty	0.46				
		Too acid	0.50				
306C:							
Deerton, dissected--	35	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.16
		Droughty	0.00			Too acid	0.76
		Depth to bedrock	0.16				
		Too acid	0.50				
Tokiahok, dissected	30	Poor		Poor		Fair	
		Wind erosion	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Droughty	0.00			Too sandy	0.36
		Depth to cemented pan	0.10			Slope	0.84
		Too acid	0.20			Too acid	0.99
		Too sandy	0.36				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
306C:							
Jeske, dissected----	20	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Droughty	0.00			Depth to bedrock	0.01
		Depth to bedrock	0.01				
		Organic matter content (low)	0.12				
		Too acid	0.50				
307B:							
Rubicon, very deep water table--------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
307D:							
Rubicon, very deep water table--------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
308B:							
Rubicon----------	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
Sultz----------	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Too acid	0.54				
308D:							
Rubicon----------	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
308D:							
Sultz	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Too acid	0.54				
309B:							
Rubicon, deep water table	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
309D:							
Rubicon, deep water table	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.12				
		Droughty	0.23				
		Too acid	0.50				
310B:							
Kalkaska, burned	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
310D:							
Kalkaska, burned	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
310E:							
Kalkaska, burned	95	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
311B:							
Kalkaska, very deep water table, burned	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
311D:							
Kalkaska, very deep water table, burned	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
312B:							
Islandlake, burned--	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.98
		Too acid	0.00				
		Droughty	0.92				
312D:							
Islandlake, burned--	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.84
		Too acid	0.00			Too acid	0.98
		Droughty	0.92				
313B:							
Kalkaska, deep water table, burned------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
314B:							
Blue Lake, very deep water table, burned	95	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
315B:							
Blue Lake, deep water table, burned	95	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
316B:							
Blue Lake, burned---	95	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Too acid	0.88
		Too sandy	0.30				
		Too acid	0.50				
316D:							
Blue Lake, burned---	95	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.30
		Organic matter content (low)	0.12			Slope	0.63
		Too sandy	0.30			Too acid	0.88
		Too acid	0.50				
317B:							
Kalkaska, very deep water table--------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
317D:							
Kalkaska, very deep water table--------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
318B:							
Islandlake, very deep water table---	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.98
		Too acid	0.00				
		Droughty	0.92				
318D:							
Islandlake, very deep water table---	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.84
		Too acid	0.00			Too acid	0.98
		Droughty	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
319B:							
Islandlake----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Too acid	0.98
		Too acid	0.00				
		Droughty	0.92				
319D:							
Islandlake----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.84
		Too acid	0.00			Too acid	0.98
		Droughty	0.92				
319E:							
Islandlake----------	95	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Too acid	0.00			Too acid	0.98
		Droughty	0.92				
319F:							
Islandlake----------	95	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Too acid	0.00			Too acid	0.98
		Droughty	0.99				
320B:							
Kalkaska, deep water table----------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
321B:							
Kalkaska----------	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Deerton----------	45	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.16
		Droughty	0.00			Too acid	0.76
		Depth to bedrock	0.16				
		Too acid	0.50				

Table 14b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
321D:							
Kalkaska----------	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.63
		Organic matter content (low)	0.18				
		Too acid	0.50				
		Droughty	0.77				
Deerton----------	45	Poor		Poor		Poor	
		Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
		Wind erosion	0.00			Depth to bedrock	0.16
		Droughty	0.00			Slope	0.63
		Depth to bedrock	0.16			Too acid	0.76
		Too acid	0.50				

Table 15a.--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
10:							
Beaches	100	Not rated		Not rated		Not rated	
11C:							
Deer Park	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	0.32				
11E:							
Deer Park	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
11F:							
Deer Park	98	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
12B:							
Rubicon	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
12D:							
Rubicon	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
12E:							
Rubicon	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
13B:							
Kalkaska	94	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
13D:							
Kalkaska	96	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
13E:							
Kalkaska	100	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
15A:							
Croswell	92	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.64	Depth to saturated zone	0.01

Table 15a.--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
16A:							
Paquin----------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.01
				Seepage	0.95		
17A:							
Au Gres----------	92	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.64		
18:							
Kinross----------	92	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.95		
19:							
Deford----------	92	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.25		
21A:							
Ingalls----------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.72		
24B:							
Munising----------	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.30	Thin layer	1.00		
		Slope	0.08	Seepage	0.08		
25B:							
Munising----------	55	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.30	Thin layer	1.00		
		Slope	0.08	Seepage	0.08		
Yalmer----------	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.98	Thin layer	0.98		
		Slope	0.08	Seepage	0.36		
25D:							
Munising----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
		Seepage	0.30	Seepage	0.08		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
25D:							
Yalmer	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	1.00	Thin layer	0.98		
		Depth to cemented pan	0.98	Seepage	0.36		
31D:							
Trenary	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.30				
33:							
Ensley	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Ponding	1.00		
35B:							
Munising, calcareous substratum	40	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.81	Thin layer	0.99		
Yalmer, calcareous substratum	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.91	Thin layer	0.91		
				Seepage	0.07		
Frohling, calcareous substratum	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.98	Thin layer	0.98	Depth to water	1.00
				Seepage	0.01		
		Seepage	0.70				
		Slope	0.32				
37B:							
Grand Sable	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
37E:							
Grand Sable	98	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
38B:							
Rhody	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to bedrock	0.42			Depth to hard bedrock	0.99
				Ponding	1.00		
				Seepage	0.91		
				Thin layer	0.66		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
38B:							
Towes	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.61	Piping	1.00	Cutbanks cave	1.00
				Thin layer	0.95		
				Seepage	0.91		
40B:							
Waiska, very stony	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
42:							
Davies	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Large stones	0.14
				Ponding	1.00		
				Seepage	0.95		
				Large stones	0.14		
46:							
Jacobsville, very stony	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.66	Ponding	1.00	Cutbanks cave	0.10
				Thin layer	0.66		
				Seepage	0.03		
47C:							
Deerton	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
Au Train	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.08	Thin layer	1.00	Cutbanks cave	0.10
		Seepage	0.01	Seepage	0.66		
47E:							
Deerton	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
Au Train	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.81	Thin layer	1.00	Cutbanks cave	0.10
		Seepage	0.01	Seepage	0.66		
48:							
Burt	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.86		

Table 15a.--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
49B:							
Cookson----------	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.66	Depth to water	1.00
		Depth to bedrock	0.66				
51:							
Nahma----------	50	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.86	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Ponding	1.00	Cutbanks cave	1.00
				Thin layer	0.86	Slow refill	0.30
Ruse----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.03		
52B:							
Summerville---------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Seepage	0.11				
57:							
Carbondale----------	30	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		
Lupton----------	30	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		
Tawas----------	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.91		
58:							
Dawson----------	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Ponding	1.00		
				Seepage	0.25		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
58:							
Greenwood	30	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		
Loxley	30	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		
59:							
Chippeny	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.91	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Ponding	1.00		
				Thin layer	0.91		
Nahma	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.86	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Ponding	1.00	Cutbanks cave	1.00
				Thin layer	0.86	Slow refill	0.30
60:							
Histosols	50	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Piping	1.00		
Aquents	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Cutbanks cave	0.10
61:							
Pits	100	Not rated		Not rated		Not rated	
62F:							
Udipsamments	50	Not rated		Not rated		Not rated	
Udorthents	50	Not rated		Not rated		Not rated	
64B:							
Kiva	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
64D:							
Kiva----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	1.00				
65D:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Thin layer	1.00	Cutbanks cave	1.00
				Seepage	0.52		
Gongeau, bedrock terrace----------	25	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.01	Thin layer	1.00	Cutbanks cave	0.10
				Seepage	0.52		
Deerton, bedrock terrace----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
65F:							
Jeske, bedrock terrace----------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Thin layer	1.00	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.52		
Gongeau, bedrock terrace----------	25	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.01	Thin layer	1.00	Cutbanks cave	0.10
				Seepage	0.52		
Deerton, bedrock terrace----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
66D:							
Ruse, bedrock terrace----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Piping	1.00	Slow refill	0.30
				Thin layer	1.00	Cutbanks cave	0.10

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
66D:							
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.08	Thin layer	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	1.00	Slow refill	0.30
		Seepage	0.05	Piping	1.00	Cutbanks cave	0.10
66F:							
Ruse, bedrock terrace	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Piping	1.00	Slow refill	0.30
				Thin layer	1.00	Cutbanks cave	0.10
Ensign, bedrock terrace	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
Nykanen, bedrock terrace	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	1.00	Slow refill	0.30
		Seepage	0.05	Piping	1.00	Cutbanks cave	0.10
68:							
Pits, quarry	100	Not rated		Not rated		Not rated	
69B:							
Escanaba	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	Depth to water	1.00
71A:							
Evart	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.95		
Sturgeon	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.43		

Table 15a.--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
72E:							
Deerton, dissected--	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
Tokiahok, dissected	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	Depth to water	1.00
		Slope	1.00	Seepage	0.03		
		Depth to cemented pan	0.98				
Trout Bay, dissected	15	Very limited		Very limited		Very limited	
		Slope	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.74	Depth to saturated zone	1.00	Cutbanks cave	0.10
		Seepage	0.01	Piping	1.00		
				Thin layer	1.00		
72F:							
Deerton, dissected--	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				
Tokiahok, dissected	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	Depth to water	1.00
		Slope	1.00	Seepage	0.03		
		Depth to cemented pan	0.98				
Trout Bay, dissected	20	Very limited		Very limited		Very limited	
		Slope	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.74	Depth to saturated zone	1.00	Cutbanks cave	0.10
		Seepage	0.01	Piping	1.00		
				Thin layer	1.00		
76C:							
Garlic, dissected---	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	0.92				
Blue Lake, dissected	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	0.92				
Voelker, dissected--	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.36		
		Slope	0.92				
76E:							
Garlic, dissected---	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
76E:							
Blue Lake, dissected	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
Voelker, dissected--	20	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.36		
		Seepage	1.00				
76F:							
Garlic, dissected---	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
Blue Lake, dissected	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
Voelker, dissected--	20	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.36		
		Seepage	1.00				
77B:							
Garlic----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
Blue Lake----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
Voelker----------	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	Depth to water	1.00
				Seepage	0.36		
		Seepage	1.00				
77D:							
Garlic----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
Blue Lake----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
Voelker----------	20	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	Depth to water	1.00
				Seepage	0.36		
		Slope	1.00				
		Seepage	1.00				
77E:							
Garlic----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
77E:							
Blue Lake	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
Voelker	20	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.36		
		Seepage	1.00				
88:							
Cathro	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Ponding	1.00		
Ensley	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Ponding	1.00		
93:							
Tawas	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.91		
Deford	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.25		
95B:							
Liminga	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.45	Depth to water	1.00
104C:							
Fence, dissected	90	Somewhat limited		Very limited		Very limited	
		Slope	0.92	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.01			Slow refill	0.30
				Piping	1.00		
109D:							
Rousseau	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Dawson	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Ponding	1.00		
				Seepage	0.25		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
109F:							
Rousseau	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Dawson	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Ponding	1.00		
				Seepage	0.25		
125B:							
Stutts	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
Kalkaska	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
125D:							
Stutts	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
Kalkaska	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
125E:							
Stutts	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
Kalkaska	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
135B:							
Munising, calcareous substratum	65	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.81	Thin layer	1.00		
Ensley	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Ponding	1.00		
145C:							
Munising, dissected, very stony	50	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.92	Thin layer	1.00		
		Seepage	0.30	Seepage	0.08		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
145C:							
Yalmer, dissected, very stony---------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.98	Thin layer	0.98		
		Slope	0.92	Seepage	0.36		
146B:							
Munising, stony-----	60	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.30	Thin layer	1.00		
				Seepage	0.08		
Skanee, stony-------	30	Very limited		Very limited		Somewhat limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Seepage	0.30	Thin layer	1.00	Slow refill	0.70
				Seepage	0.01	Cutbanks cave	0.10
147A:							
Skanee, very stony--	55	Very limited		Very limited		Somewhat limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Seepage	0.30	Thin layer	1.00	Slow refill	0.70
				Seepage	0.01	Cutbanks cave	0.10
Gay, very stony-----	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.30	Depth to saturated zone	1.00	Slow refill	0.19
						Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.03		
148B:							
Shoepac----------	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.05
				Seepage	0.01		
Ensley----------	20	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Ponding	1.00		
155A:							
Zeba, very stony----	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.77	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.30				
				Thin layer	0.77	Slow refill	0.19
				Seepage	0.03	Cutbanks cave	0.10
Jacobsville, very stony----------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.66				
				Ponding	1.00	Cutbanks cave	0.10
				Thin layer	0.66		
				Seepage	0.03		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
157B:							
Reade	45	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.91	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.91	Cutbanks cave	1.00
				Seepage	0.01	Slow refill	0.30
Nahma	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.86	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Ponding	1.00	Cutbanks cave	1.00
				Thin layer	0.86	Slow refill	0.30
158C:							
Munising, dissected, stony	50	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.68	Thin layer	1.00		
		Seepage	0.30	Seepage	0.08		
Abbaye, dissected, stony	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.81	Cutbanks cave	1.00
		Slope	0.68	Seepage	0.04	Slow refill	0.30
160B:							
Paquin	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.01
				Seepage	0.95		
Finch	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Seepage	0.91		
161B:							
Yellowdog, stony	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Depth to bedrock	0.81	Thin layer	0.81		
				Large stones	0.50		
Buckroe, stony	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
				Seepage	0.91		
165B:							
Chocolay, very stony	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.93	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Large stones	0.95	Cutbanks cave	1.00
				Thin layer	0.93	Large stones	0.95
				Seepage	0.02	Slow refill	0.30

Table 15a.--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
165B:							
Waiska, very stony--	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
166:							
Skandia----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Ponding	1.00		
				Thin layer	0.95		
167:							
Skandia, stony------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Ponding	1.00		
				Thin layer	0.95		
Jacobsville, stony--	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.66	Ponding	1.00	Cutbanks cave	0.10
				Thin layer	0.66		
				Seepage	0.03		
170B:							
Chocolay, very stony	90	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.93	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Large stones	0.95	Cutbanks cave	1.00
				Thin layer	0.93	Large stones	0.95
				Seepage	0.12	Slow refill	0.30
171B:							
Paavola, very stony	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.88	Thin layer	0.88		
				Seepage	0.66		
172D:							
Buckroe, very bouldery----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.91		
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 15a.--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
172F:							
Buckroe, very bouldery	70	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.91		
Rock outcrop	15	Not rated		Not rated		Not rated	
176B:							
Croswell	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.64		
Kinross	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.95		
181E:							
Frohling, dissected, stony	60	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.01		
Tokiahok, dissected, stony	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	Depth to water	1.00
		Slope	1.00	Seepage	0.03		
		Depth to cemented pan	0.98				
185B:							
McMaster	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.66		
186B:							
Chatham, stony	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
186D:							
Chatham, stony	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
187B:							
Reade	85	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.91	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70				
				Thin layer	0.91	Cutbanks cave	1.00
				Seepage	0.01	Slow refill	0.30
188B:							
Eben, stony	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
				Large stones	0.68		

Table 15a.--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
188D:							
Eben, stony---------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	1.00	Large stones	0.68		
188E:							
Eben, stony---------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	1.00	Large stones	0.68		
191B:							
Ruse----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.03		
Ensign----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.01	Thin layer	1.00	Slow refill	0.30
				Organic matter content	1.00	Cutbanks cave	0.10
				Seepage	0.01		
197B:							
Shoepac----------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.05
				Seepage	0.01		
Trenary----------	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.30	Seepage	0.03	Depth to water	1.00
		Slope	0.08				
198B:							
Shoepac----------	60	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.05
				Seepage	0.01		
Reade----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.91	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.91	Cutbanks cave	1.00
				Seepage	0.01	Slow refill	0.30
200A:							
Charlevoix----------	55	Somewhat limited		Very limited		Very limited	
		Seepage	0.30	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
Ensley----------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Ponding	1.00		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
202B:							
Sauxhead, very stony	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Seepage	0.25		
206B:							
Traunik	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	0.08				
206D:							
Traunik	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
211B:							
Munising	55	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.30	Thin layer	1.00		
				Seepage	0.08		
Abbaye	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.81	Cutbanks cave	1.00
				Seepage	0.04	Slow refill	0.30
214B:							
Kalkaska	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
Blue Lake	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
214D:							
Kalkaska	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Blue Lake	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				
214E:							
Kalkaska	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Blue Lake	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
221B:							
Jeske	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Thin layer	1.00	Cutbanks cave	1.00
				Seepage	0.52		
Au Train	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.08	Thin layer	1.00	Cutbanks cave	0.10
		Seepage	0.01	Seepage	0.66		
Gongeau	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.01	Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.52		
225B:							
Cusino	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
225D:							
Cusino	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
226B:							
Kalkaska	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
Cusino	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
226D:							
Kalkaska	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Cusino	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
226E:							
Kalkaska	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Cusino	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
226F:							
Kalkaska	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
226F:							
Cusino	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
227A:							
Halfaday	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.64		
232B:							
Shelldrake	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	0.08				
233B:							
Abbaye, very stony	50	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70				
				Thin layer	0.81	Cutbanks cave	1.00
				Seepage	0.04	Slow refill	0.30
Zeba, very stony	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.77	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.30				
				Thin layer	0.77	Slow refill	0.19
				Seepage	0.03	Cutbanks cave	0.10
234A:							
Levasseur, very stony	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Large stones	0.85
				Seepage	0.91	Cutbanks cave	0.10
				Large stones	0.85		
Burt, very stony	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.86		
235B:							
Sauxhead, very stony	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Seepage	0.25		
Burt, very stony	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.86		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
236B:							
Waiska, extremely bouldery	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
236D:							
Waiska, extremely bouldery	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
237B:							
Chatham	65	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
Davies	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Large stones	0.14
				Ponding	1.00		
				Seepage	0.95		
				Large stones	0.14		
239B:							
Longrie	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.66	Depth to water	1.00
		Depth to bedrock	0.66	Seepage	0.01		
Shingleton	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
				Seepage	0.07		
240F:							
Trout Bay	30	Very limited		Very limited		Very limited	
		Slope	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.74	Depth to saturated zone	1.00	Cutbanks cave	0.10
		Seepage	0.01	Piping	1.00		
				Thin layer	1.00		
Gongeau	25	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.32	Thin layer	1.00	Cutbanks cave	0.10
		Seepage	0.01	Seepage	0.52		
Shingleton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.07		
Rock outcrop	15	Not rated		Not rated		Not rated	
241:							
Cathro	55	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		

Table 15a.--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
241:							
Gay	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.30	Depth to saturated zone	1.00	Slow refill	0.19
						Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.03		
242B:							
Kalkaska, severely burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
242D:							
Kalkaska, severely burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
242F:							
Kalkaska, severely burned	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
243:							
Markey	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.86		
245B:							
Trout Bay	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.74	Organic matter content	1.00	Depth to hard bedrock	1.00
		Seepage	0.01				
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Thin layer	1.00		
				Ponding	1.00		
Lupton	30	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
				Ponding	1.00		
Gongeau	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.01				
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.52		
246B:							
Garlic	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00

Table 15a.--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
246D:							
Garlic	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
246E:							
Garlic	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
248B:							
Escanaba	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	Depth to water	1.00
Greylock	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.03	Depth to water	1.00
248D:							
Escanaba	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	Depth to water	1.00
		Slope	1.00				
Greylock	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.70				
248E:							
Escanaba	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	Depth to water	1.00
		Slope	1.00				
Greylock	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.70				
249B:							
Sauxhead	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Seepage	0.25		
Skandia	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Ponding	1.00		
				Thin layer	0.95		
250B:							
Chocolay, extremely stony	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.93	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Large stones	0.95	Cutbanks cave	1.00
				Thin layer	0.93	Large stones	0.95
				Seepage	0.02	Slow refill	0.30

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
250B:							
Jacobsville, extremely stony	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.66	Ponding	1.00	Cutbanks cave	0.10
				Thin layer	0.66		
				Seepage	0.03		
251B:							
Greylock	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.03	Depth to water	1.00
251D:							
Greylock	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.70				
252A:							
Finch	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Seepage	0.91		
Kinross	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.95		
254C:							
Kalkaska, dissected	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	0.92				
Blue Lake, dissected	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	0.92				
254E:							
Kalkaska, dissected	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Blue Lake, dissected	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				
254F:							
Kalkaska, dissected	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Blue Lake, dissected	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
255D:							
Wallace----------	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.93		
		Slope	1.00				
256B:							
Whitewash----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
266A:							
Spot----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Organic matter content	1.00		
				Ponding	1.00		
				Seepage	0.64		
Finch----------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Seepage	0.91		
267A:							
Finch----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Seepage	0.91		
268C:							
Munising, calcareous substratum, dissected----------	40	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.81	Thin layer	1.00		
		Slope	0.68				
Frohling, calcareous substratum, dissected----------	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.98	Thin layer	0.98	Depth to water	1.00
				Seepage	0.01		
		Seepage	0.70				
		Slope	0.68				
Cookson, dissected--	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.66	Depth to water	1.00
		Slope	0.68				
		Depth to bedrock	0.66				

Table 15a.--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
269E:							
Frohling, calcareous substratum, dissected----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to cemented pan	0.98	Seepage	0.01		
		Seepage	0.70				
Garlic, dissected---	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.91	Depth to water	1.00
		Slope	1.00				
Cookson, dissected--	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.66	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.66				
272C:							
Munising, calcareous substratum, dissected----------	40	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.81	Thin layer	1.00		
		Slope	0.68				
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.92				
		Depth to cemented pan	0.91	Thin layer	0.91		
				Seepage	0.07		
Frohling, calcareous substratum, dissected----------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.98	Thin layer	0.98	Depth to water	1.00
				Seepage	0.01		
		Slope	0.92				
		Seepage	0.70				
275B:							
Munising, calcareous substratum---------	50	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.81	Thin layer	0.99		
Cookson----------	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.66	Depth to water	1.00
		Depth to bedrock	0.66				
281E:							
Mongo, dissected----	95	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.11	Depth to water	1.00

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
282B:							
Furlong	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.99	Seepage	0.86		
		Slope	0.08				
Shingleton	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
				Seepage	0.07		
282D:							
Furlong	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.86		
		Depth to bedrock	0.99				
Shingleton	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.07		
284B:							
Steuben	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.91		
Blue Lake	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
Kalkaska	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
284D:							
Steuben	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.91		
		Depth to cemented pan	1.00				
Blue Lake	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				
Kalkaska	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
284E:							
Steuben	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.91		
		Depth to cemented pan	1.00				
Blue Lake	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
284E:							
Kalkaska	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
285B:							
Halfaday	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.64		
Kinross	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.95		
286B:							
Greylock	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.03	Depth to water	1.00
Cookson	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.66	Depth to water	1.00
		Depth to bedrock	0.66				
287B:							
McMaster	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.66		
Davies	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Large stones	0.14
				Ponding	1.00		
				Seepage	0.95		
				Large stones	0.14		
290A:							
Namur, very stony	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.01	Thin layer	1.00		
Ruse, very stony	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Seepage	0.03		
292B:							
Mashek, sandy substratum	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.91		

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
296D:							
Islandlake----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
McMillan----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00
		Slope	1.00				
296E:							
Islandlake----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
McMillan----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00
		Slope	1.00				
297B:							
Rubicon, severely burned----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
297D:							
Rubicon, severely burned----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
298B:							
Wurtsmith----------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Depth to saturated zone	0.01
				Seepage	0.91		
Deford----------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.25		
299F:							
Shelldrake----------	99	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	1.00				
300F:							
Shelldrake----------	61	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	1.00				
Dune land----------	38	Not rated		Not rated		Not rated	
301F:							
Cookson, dissected--	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.66	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.66				

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
301F:							
Nykanen, dissected--	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	1.00	Slow refill	0.30
		Seepage	0.05	Piping	1.00	Cutbanks cave	0.10
302B:							
Dillingham----------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Seepage	0.75		
Kalkaska----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
302D:							
Dillingham----------	52	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.68		
		Depth to cemented pan	1.00				
Kalkaska----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
302E:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.68		
		Depth to cemented pan	1.00				
Kalkaska----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
302F:							
Dillingham----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Seepage	0.68		
		Depth to cemented pan	1.00				
Kalkaska----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
303B:							
Kiva----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
Trenary----------	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.30	Seepage	0.03	Depth to water	1.00
303D:							
Kiva----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
303D:							
Trenary----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.30				
303E:							
Kiva----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	1.00				
Trenary----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.03	Depth to water	1.00
		Seepage	0.30				
305B:							
Wurtsmith----------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.91	Depth to saturated zone	0.01
Meehan----------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.91		
306C:							
Deerton, dissected--	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	0.68	Seepage	0.42		
		Depth to bedrock	0.52				
Tokiahok, dissected	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	Depth to water	1.00
		Slope	1.00	Seepage	0.03		
		Depth to cemented pan	0.98				
Jeske, dissected----	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.83	Thin layer	1.00	Cutbanks cave	1.00
		Slope	0.32	Seepage	0.52		
307B:							
Rubicon, very deep water table--------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
307D:							
Rubicon, very deep water table--------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
308B:							
Rubicon----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
Sultz----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
308D:							
Rubicon----------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Depth to water	1.00
		Slope	1.00				
Sultz----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				
309B:							
Rubicon, deep water table----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Cutbanks cave	1.00
						Depth to saturated zone	0.90
309D:							
Rubicon, deep water table----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	Cutbanks cave	1.00
		Slope	1.00			Depth to saturated zone	0.90
310B:							
Kalkaska, burned----	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
310D:							
Kalkaska, burned----	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
310E:							
Kalkaska, burned----	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
311B:							
Kalkaska, very deep water table, burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
311D:							
Kalkaska, very deep water table, burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
312B:							
Islandlake, burned--	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
312D:							
Islandlake, burned--	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				

Table 15a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
313B:							
Kalkaska, deep water table, burned------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
314B:							
Blue Lake, very deep water table, burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
315B:							
Blue Lake, deep water table, burned	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Cutbanks cave	1.00
						Depth to saturated zone	0.90
316B:							
Blue Lake, burned---	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
316D:							
Blue Lake, burned---	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				
317B:							
Kalkaska, very deep water table--------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
317D:							
Kalkaska, very deep water table--------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
318B:							
Islandlake, very deep water table---	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
318D:							
Islandlake, very deep water table---	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
319B:							
Islandlake----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
319D:							
Islandlake----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				

Table 15a.--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
319E:							
Islandlake----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
319F:							
Islandlake----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
320B:							
Kalkaska, deep water table----------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Cutbanks cave	1.00
						Depth to saturated zone	0.90
321B:							
Kalkaska----------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
Deerton----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Depth to bedrock	0.52	Seepage	0.42		
321D:							
Kalkaska----------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
Deerton----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.96	Depth to water	1.00
		Slope	1.00	Seepage	0.42		
		Depth to bedrock	0.52				

Table 15b.--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	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10:					
Beaches	100	Not rated		Not rated	
11C:					
Deer Park	90	Somewhat limited		Very limited	
		Droughty	0.85	Cutbanks cave	1.00
		Slope	0.62	Deep to water	1.00
11E:					
Deer Park	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.85	Deep to water	1.00
				Slope	1.00
11F:					
Deer Park	98	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.85	Cutbanks cave	1.00
				Deep to water	1.00
12B:					
Rubicon	90	Somewhat limited		Very limited	
		Droughty	0.93	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
12D:					
Rubicon	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.93	Deep to water	1.00
				Slope	0.37
12E:					
Rubicon	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.93	Cutbanks cave	1.00
				Deep to water	1.00
13B:					
Kalkaska	94	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
13D:					
Kalkaska	96	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
13E:					
Kalkaska	100	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15A:					
Croswell----------	92	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.19	Cutbanks cave	1.00
		Slope	0.04		
16A:					
Paquin----------	90	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Slope	0.01	Cutbanks cave	1.00
17A:					
Au Gres----------	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.80	Cutbanks cave	1.00
18:					
Kinross----------	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.04	Cutbanks cave	1.00
				Ponding	1.00
19:					
Deford----------	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Ponding	1.00
21A:					
Ingalls----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.35	Cutbanks cave	1.00
24B:					
Munising----------	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.95	Cutbanks cave	1.00
		Slope	0.36	Dense layer	0.50
		Water erosion	0.17		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25B:					
Munising----------	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.95	Cutbanks cave	1.00
		Slope	0.36	Dense layer	0.50
		Water erosion	0.17		
Yalmer----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
		Droughty	1.00	Depth to thin cemented pan	0.90
		Slope	0.36	Dense layer	0.50
25D:					
Munising----------	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.95	Dense layer	0.50
		Water erosion	0.17	Slope	0.37
Yalmer----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
		Slope	1.00	Depth to thin cemented pan	0.90
		Droughty	1.00	Dense layer	0.50
				Slope	0.37
31D:					
Trenary----------	85	Very limited		Very limited	
		Slope	1.00	Deep to water	1.00
		Water erosion	0.56	Cutbanks cave	1.00
				Dense layer	0.50
				Slope	0.16
33:					
Ensley----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35B:					
Munising, calcareous substratum---------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.16	Cutbanks cave	1.00
		Droughty	0.13	Dense layer	0.50
		Water erosion	0.01		
Yalmer, calcareous substratum---------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00
		Droughty	0.97	Cutbanks cave	1.00
		Slope	0.16	Dense layer	0.50
Frohling, calcareous substratum---------	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	0.62	Cutbanks cave	1.00
		Water erosion	0.01	Deep to water	1.00
				Dense layer	0.50
37B:					
Grand Sable---------	90	Somewhat limited		Very limited	
		Droughty	0.05	Deep to water	1.00
37E:					
Grand Sable---------	98	Somewhat limited		Very limited	
		Droughty	0.05	Deep to water	1.00
38B:					
Rhody----------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.99	Cutbanks cave	1.00
		Water erosion	0.56	Frost action	1.00
				Ponding	1.00
				Depth to bedrock	0.99
Towes----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.56	Cutbanks cave	1.00
		Slope	0.04	Frost action	1.00
40B:					
Waiska, very stony--	90	Very limited		Very limited	
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42:					
Davies	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Cobble content	0.94	Cutbanks cave	1.00
		Droughty	0.55	Frost action	1.00
				Ponding	1.00
				Large stones	0.14
46:					
Jacobsville, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.01	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
47C:					
Deerton	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
Au Train	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.36		
47E:					
Deerton	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
				Slope	1.00
Au Train	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	1.00	Slope	0.63
48:					
Burt	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Ponding	1.00
				Cutbanks cave	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49B:					
Cookson----------	90	Very limited		Very limited	
		Water erosion	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Deep to water	1.00
		Slope	0.04	Cutbanks cave	1.00
51:					
Nahma----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
				Depth to saturated zone	1.00
		Water erosion	1.00		
		Depth to bedrock	1.00	Cutbanks cave	1.00
		Restricted permeability	1.00	Frost action	1.00
				Ponding	1.00
Ruse----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.93	Frost action	1.00
		Water erosion	0.56	Ponding	1.00
				Cutbanks cave	1.00
52B:					
Summerville---------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Deep to water	1.00
		Droughty	0.93	Cutbanks cave	1.00
		Slope	0.04		
57:					
Carbondale----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
				Cutbanks cave	1.00
Lupton----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
				Cutbanks cave	1.00
Tawas----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58:					
Dawson	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
Greenwood	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
				Cutbanks cave	1.00
Loxley	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
				Cutbanks cave	1.00
59:					
Chippeny	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
Nahma	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Cutbanks cave	1.00
		Restricted permeability	1.00	Frost action	1.00
				Ponding	1.00
60:					
Histosols	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
				Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
Aquents	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
				Depth to saturated zone	1.00
				Frost action	1.00
				Cutbanks cave	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
61:					
Pits	100	Not rated		Not rated	
62F:					
Udipsamments	50	Not rated		Not rated	
Udorthents	50	Not rated		Not rated	
64B:					
Kiva	90	Somewhat limited		Very limited	
		Droughty	0.32	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16		
64D:					
Kiva	90	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.32	Deep to water	1.00
		Water erosion	0.17	Slope	0.16
65D:					
Jeske, bedrock terrace	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	0.94	Cutbanks cave	1.00
		Slope	0.16		
Gongeau, bedrock terrace	25	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.54	Frost action	1.00
		Slope	0.04	Cutbanks cave	1.00
Deerton, bedrock terrace	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
				Slope	0.84
65F:					
Jeske, bedrock terrace	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	0.94	Cutbanks cave	1.00
		Slope	0.36		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65F:					
Gongeau, bedrock terrace----------	25	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.54	Frost action	1.00
		Slope	0.04	Cutbanks cave	1.00
Deerton, bedrock terrace----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
				Slope	1.00
66D:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Frost action	1.00
		Restricted permeability	0.60	Cutbanks cave	1.00
Ensign, bedrock terrace----------	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Cutbanks cave	1.00
		Droughty	0.70		
Nykanen, bedrock terrace----------	20	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Cutbanks cave	1.00
		Slope	1.00	Slope	0.63
66F:					
Ruse, bedrock terrace----------	40	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Frost action	1.00
		Droughty	0.72	Cutbanks cave	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value
66F:					
Ensign, bedrock terrace	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Cutbanks cave	1.00
		Droughty	0.70		
Nykanen, bedrock terrace	20	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Slope	1.00
		Slope	1.00	Cutbanks cave	1.00
68:					
Pits, quarry	100	Not rated		Not rated	
69B:					
Escanaba	85	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Deep to water	1.00
71A:					
Evart	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Water erosion	0.89	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
Sturgeon	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Water erosion	0.89	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
72E:					
Deerton, dissected	40	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
				Slope	1.00
Tokiahok, dissected	30	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
		Droughty	0.95	Deep to water	1.00
				Slope	1.00
				Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72E:					
Trout Bay, dissected	15	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Frost action	1.00
				Slope	1.00
72F:					
Deerton, dissected--	40	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Droughty	0.83	Cutbanks cave	1.00
				Deep to water	1.00
Tokiahok, dissected	25	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Slope	1.00
		Droughty	0.95	Cutbanks cave	1.00
				Deep to water	1.00
				Dense layer	0.50
Trout Bay, dissected	20	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Frost action	1.00
76C:					
Garlic, dissected---	40	Somewhat limited		Very limited	
		Slope	0.95	Cutbanks cave	1.00
		Droughty	0.74	Deep to water	1.00
Blue Lake, dissected	30	Somewhat limited		Very limited	
		Slope	0.95	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Slope	0.95	Cutbanks cave	1.00
				Deep to water	1.00
76E:					
Garlic, dissected---	40	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.74	Deep to water	1.00
				Slope	1.00
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
				Slope	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76E:					
Voelker, dissected--	20	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
				Deep to water	1.00
				Slope	1.00
76F:					
Garlic, dissected---	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.74	Cutbanks cave	1.00
				Deep to water	1.00
Blue Lake, dissected	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.23	Cutbanks cave	1.00
				Deep to water	1.00
Voelker, dissected--	20	Very limited		Very limited	
		Slope	1.00	Depth to thin cemented pan	1.00
		Droughty	1.00	Slope	1.00
				Cutbanks cave	1.00
				Deep to water	1.00
77B:					
Garlic----------	40	Somewhat limited		Very limited	
		Droughty	0.74	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Blue Lake----------	30	Somewhat limited		Very limited	
		Droughty	0.23	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Voelker----------	20	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Slope	0.16	Cutbanks cave	1.00
				Deep to water	1.00
77D:					
Garlic----------	40	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.74	Deep to water	1.00
				Slope	0.16
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
				Slope	0.16
Voelker----------	20	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
				Deep to water	1.00
				Slope	0.16

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77E:					
Garlic	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.74	Cutbanks cave	1.00
				Deep to water	1.00
Blue Lake	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.23	Cutbanks cave	1.00
				Deep to water	1.00
Voelker	20	Very limited		Very limited	
		Slope	1.00	Depth to thin cemented pan	1.00
		Droughty	1.00	Slope	1.00
				Cutbanks cave	1.00
				Deep to water	1.00
88:					
Cathro	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
Ensley	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
93:					
Tawas	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
Deford	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Ponding	1.00
95B:					
Liminga	90	Somewhat limited		Very limited	
		Droughty	0.25	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
104C:					
Fence, dissected----	90	Very limited		Very limited	
		Water erosion	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.95	Frost action	1.00
		Restricted permeability	0.60		
109D:					
Rousseau----------	50	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.84	Deep to water	1.00
				Slope	0.37
Dawson----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
109F:					
Rousseau----------	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.84	Deep to water	1.00
				Slope	1.00
Dawson----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
125B:					
Stutts----------	65	Somewhat limited		Very limited	
		Water erosion	0.17	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
		Droughty	0.01		
Kalkaska----------	35	Somewhat limited		Very limited	
		Droughty	0.72	Cutbanks cave	1.00
		Slope	0.04	Deep to water	1.00
125D:					
Stutts----------	65	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
		Droughty	0.01	Slope	0.37
Kalkaska----------	25	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.72	Deep to water	1.00
				Slope	0.37

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
125E:					
Stutts	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Water erosion	0.17	Cutbanks cave	1.00
		Droughty	0.01	Deep to water	1.00
Kalkaska	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.72	Cutbanks cave	1.00
				Deep to water	1.00
135B:					
Munising, calcareous substratum	65	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.34	Cutbanks cave	1.00
		Slope	0.16	Dense layer	0.50
		Water erosion	0.01		
Ensley	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
145C:					
Munising, dissected, very stony	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.95	Cutbanks cave	1.00
		Droughty	0.95	Dense layer	0.50
		Water erosion	0.17		
Yalmer, dissected, very stony	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
				Depth to thin cemented pan	0.90
		Droughty	1.00		
		Slope	0.95	Dense layer	0.50
146B:					
Munising, stony	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.95	Cutbanks cave	1.00
		Water erosion	0.17	Dense layer	0.50
		Slope	0.16		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
146B:					
Skanee, stony-------	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Frost action	1.00
		Water erosion	0.01	Cutbanks cave	1.00
				Dense layer	0.50
147A:					
Skanee, very stony--	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Frost action	1.00
		Water erosion	0.01	Cutbanks cave	1.00
				Dense layer	0.50
Gay, very stony-----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.17	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
148B:					
Shoepac----------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Slope	0.16	Dense layer	0.50
Ensley----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
155A:					
Zeba, very stony----	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.04	Frost action	1.00
		Water erosion	0.01	Cutbanks cave	1.00
Jacobsville, very stony----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.01	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
157B:					
Reade	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Droughty	0.04		
		Slope	0.04		
Nahma	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Cutbanks cave	1.00
		Restricted permeability	1.00	Frost action	1.00
				Ponding	1.00
158C:					
Munising, dissected, stony	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.95	Cutbanks cave	1.00
		Slope	0.83	Dense layer	0.50
		Water erosion	0.17		
Abbaye, dissected, stony	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.83	Cutbanks cave	1.00
		Water erosion	0.17		
160B:					
Paquin	55	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Slope	0.16	Cutbanks cave	1.00
Finch	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Droughty	1.00	Depth to saturated zone	1.00
		Slope	0.04	Cutbanks cave	1.00
161B:					
Yellowdog, stony	50	Very limited		Very limited	
		Droughty	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Deep to water	1.00
		Cobble content	0.89	Large stones	0.50
Buckroe, stony	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
165B:					
Chocolay, very stony	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Large stones	0.95
		Cobble content	0.08		
Waiska, very stony--	30	Very limited		Very limited	
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
166:					
Skandia----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
167:					
Skandia, stony------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
Jacobsville, stony--	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.01	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
170B:					
Chocolay, very stony	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Large stones	0.95
		Cobble content	0.08		
171B:					
Paavola, very stony	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
172D:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
Rock outcrop	15	Not rated		Not rated	
172F:					
Buckroe, very bouldery	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
Rock outcrop	15	Not rated		Not rated	
176B:					
Croswell	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.19	Cutbanks cave	1.00
		Slope	0.16		
Kinross	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.04	Cutbanks cave	1.00
				Ponding	1.00
181E:					
Frohling, dissected, stony	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.54	Deep to water	1.00
				Slope	1.00
				Dense layer	0.50
Tokiahok, dissected, stony	30	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
		Droughty	0.95	Deep to water	1.00
				Slope	1.00
				Dense layer	0.50
185B:					
McMaster	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.69	Cutbanks cave	1.00
		Slope	0.04		
		Cobble content	0.03		
186B:					
Chatham, stony	85	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
186D:					
Chatham, stony------	85	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Deep to water	1.00
				Slope	0.37
187B:					
Reade----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Droughty	0.04		
		Slope	0.04		
188B:					
Eben, stony---------	85	Somewhat limited		Very limited	
		Droughty	0.89	Cutbanks cave	1.00
		Cobble content	0.50	Deep to water	1.00
		Slope	0.16	Large stones	0.68
188D:					
Eben, stony---------	90	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.89	Deep to water	1.00
		Cobble content	0.50	Large stones	0.68
				Slope	0.37
188E:					
Eben, stony---------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.89	Cutbanks cave	1.00
		Cobble content	0.50	Deep to water	1.00
				Large stones	0.68
191B:					
Ruse----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.93	Frost action	1.00
		Water erosion	0.56	Ponding	1.00
				Cutbanks cave	1.00
Ensign----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.77	Frost action	1.00
		Water erosion	0.17	Cutbanks cave	1.00
197B:					
Shoepac----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Slope	0.04	Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
197B:					
Trenary----------	40	Somewhat limited		Very limited	
		Water erosion	0.56	Deep to water	1.00
		Slope	0.36	Cutbanks cave	1.00
				Dense layer	0.50
198B:					
Shoepac----------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Slope	0.04	Dense layer	0.50
Reade----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
		Droughty	0.04		
		Slope	0.04		
200A:					
Charlevoix----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Cutbanks cave	1.00
		Restricted permeability	0.15	Frost action	1.00
				Dense layer	0.50
		Slope	0.04		
Ensley----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.89	Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
202B:					
Sauxhead, very stony	85	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
		Droughty	1.00		
		Water erosion	0.01		
206B:					
Traunik----------	90	Somewhat limited		Very limited	
		Droughty	0.80	Cutbanks cave	1.00
		Slope	0.36	Deep to water	1.00
		Cobble content	0.11		
206D:					
Traunik----------	90	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.80	Deep to water	1.00
		Cobble content	0.11	Slope	0.16

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
211B:					
Munising----------	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.95	Cutbanks cave	1.00
		Water erosion	0.17	Dense layer	0.50
		Slope	0.16		
Abbaye----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.17	Cutbanks cave	1.00
		Slope	0.16		
214B:					
Kalkaska----------	60	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Blue Lake----------	30	Somewhat limited		Very limited	
		Droughty	0.23	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
214D:					
Kalkaska----------	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
Blue Lake----------	35	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
				Slope	0.37
214E:					
Kalkaska----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
Blue Lake----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.23	Cutbanks cave	1.00
				Deep to water	1.00
221B:					
Jeske----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	0.94	Cutbanks cave	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
221B:					
Au Train----------	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.36		
Gongeau----------	20	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.54	Frost action	1.00
				Ponding	1.00
225B:					
Cusino----------	95	Somewhat limited		Very limited	
		Droughty	0.92	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
225D:					
Cusino----------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.92	Deep to water	1.00
				Slope	0.37
226B:					
Kalkaska----------	50	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Cusino----------	45	Somewhat limited		Very limited	
		Droughty	0.92	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
226D:					
Kalkaska----------	50	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
Cusino----------	45	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.92	Deep to water	1.00
				Slope	0.37
226E:					
Kalkaska----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
Cusino----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.92	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
226F:					
Kalkaska----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
Cusino----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.92	Cutbanks cave	1.00
				Deep to water	1.00
227A:					
Halfaday----------	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.17	Cutbanks cave	1.00
		Slope	0.04		
232B:					
Shelldrake----------	90	Somewhat limited		Very limited	
		Droughty	0.98	Cutbanks cave	1.00
		Slope	0.36	Deep to water	1.00
233B:					
Abbaye, very stony--	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.17	Cutbanks cave	1.00
		Slope	0.16		
Zeba, very stony----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.04	Frost action	1.00
		Water erosion	0.01	Cutbanks cave	1.00
234A:					
Levasseur, very stony----------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Restricted permeability	1.00	Large stones	0.85
Burt, very stony----	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Ponding	1.00
				Cutbanks cave	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
235B:					
Sauxhead, very stony	60	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00		
		Water erosion	0.01		
Burt, very stony	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	1.00	Ponding	1.00
				Cutbanks cave	1.00
236B:					
Waiska, extremely bouldery	85	Very limited		Very limited	
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
236D:					
Waiska, extremely bouldery	85	Very limited		Very limited	
		Droughty	1.00	Cutbanks cave	1.00
		Slope	1.00	Deep to water	1.00
				Slope	0.16
237B:					
Chatham	65	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Deep to water	1.00
Davies	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Cobble content	0.94	Cutbanks cave	1.00
		Droughty	0.55	Frost action	1.00
				Ponding	1.00
				Large stones	0.14
239B:					
Longrie	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
Shingleton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
		Restricted permeability	1.00	Cutbanks cave	1.00
		Slope	0.16		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
240F:					
Trout Bay----------	30	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Frost action	1.00
				Slope	1.00
Gongeau----------	25	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.62	Frost action	1.00
		Droughty	0.54	Cutbanks cave	1.00
Shingleton----------	20	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Droughty	1.00	Deep to water	1.00
		Restricted permeability	1.00	Cutbanks cave	1.00
Rock outcrop--------	15	Not rated		Not rated	
241:					
Cathro----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
				Organic matter content	1.00
Gay----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	0.17	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
242B:					
Kalkaska, severely burned----------	95	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
242D:					
Kalkaska, severely burned----------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
242F:					
Kalkaska, severely burned	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
243:					
Markey	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Frost action	1.00
				Ponding	1.00
				Organic matter content	1.00
245B:					
Trout Bay	40	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Frost action	1.00
				Ponding	1.00
Lupton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
				Cutbanks cave	1.00
Gongeau	20	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.54	Frost action	1.00
		Slope	0.04	Ponding	1.00
246B:					
Garlic	90	Somewhat limited		Very limited	
		Droughty	0.74	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
246D:					
Garlic	90	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.74	Deep to water	1.00
				Slope	0.37
246E:					
Garlic	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.74	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
248B:					
Escanaba----------	50	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
				Deep to water	1.00
Greylock----------	40	Somewhat limited		Very limited	
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
248D:					
Escanaba----------	50	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
				Deep to water	1.00
				Slope	0.37
Greylock----------	40	Very limited		Very limited	
		Slope	1.00	Deep to water	1.00
		Water erosion	0.17	Cutbanks cave	1.00
				Slope	0.37
248E:					
Escanaba----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
				Deep to water	1.00
Greylock----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Water erosion	0.17	Deep to water	1.00
				Cutbanks cave	1.00
249B:					
Sauxhead----------	55	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
		Droughty	1.00		
		Water erosion	0.01		
Skandia----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
				Depth to saturated zone	1.00
		Depth to bedrock	1.00		
				Organic matter content	1.00
				Frost action	1.00
				Ponding	1.00
250B:					
Chocolay, extremely stony----------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
				Depth to saturated zone	1.00
		Depth to bedrock	1.00		
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.16	Large stones	0.95
		Cobble content	0.08		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
250B:					
Jacobsville, extremely stony----	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Water erosion	0.01	Frost action	1.00
				Cutbanks cave	1.00
				Ponding	1.00
251B:					
Greylock----------	90	Somewhat limited		Very limited	
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
251D:					
Greylock----------	85	Very limited		Very limited	
		Slope	1.00	Deep to water	1.00
		Water erosion	0.17	Cutbanks cave	1.00
				Slope	0.37
252A:					
Finch----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Droughty	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
Kinross----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.04	Cutbanks cave	1.00
				Ponding	1.00
254C:					
Kalkaska, dissected	55	Somewhat limited		Very limited	
		Slope	0.95	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
Blue Lake, dissected	35	Somewhat limited		Very limited	
		Slope	0.95	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
254E:					
Kalkaska, dissected	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	1.00
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
				Slope	1.00
254F:					
Kalkaska, dissected	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
254F:					
Blue Lake, dissected	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.23	Cutbanks cave	1.00
				Deep to water	1.00
255D:					
Wallace----------	95	Very limited		Very limited	
		Droughty	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
				Deep to water	1.00
				Dense layer	0.50
256B:					
Whitewash----------	95	Somewhat limited		Very limited	
		Water erosion	0.17	Cutbanks cave	1.00
		Droughty	0.01	Deep to water	1.00
266A:					
Spot----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thin cemented pan	1.00
		Droughty	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Ponding	1.00
Finch----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Droughty	1.00	Depth to saturated zone	1.00
		Slope	0.04	Cutbanks cave	1.00
267A:					
Finch----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Droughty	1.00	Depth to saturated zone	1.00
		Slope	0.04	Cutbanks cave	1.00
268C:					
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.83	Cutbanks cave	1.00
		Droughty	0.34	Dense layer	0.50
		Water erosion	0.01		

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
268C:					
Frohling, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	0.83	Cutbanks cave	1.00
		Water erosion	0.01	Deep to water	1.00
				Dense layer	0.50
Cookson, dissected--	20	Very limited		Very limited	
		Water erosion	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Deep to water	1.00
		Slope	0.83	Cutbanks cave	1.00
269E:					
Frohling, calcareous substratum, dissected----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
		Water erosion	0.01	Deep to water	1.00
				Slope	1.00
				Dense layer	0.50
Garlic, dissected---	20	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.74	Deep to water	1.00
				Slope	1.00
Cookson, dissected--	20	Very limited		Very limited	
		Water erosion	1.00	Depth to bedrock	1.00
		Slope	1.00	Deep to water	1.00
		Depth to bedrock	1.00	Slope	1.00
				Cutbanks cave	1.00
272C:					
Munising, calcareous substratum, dissected----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.83	Cutbanks cave	1.00
		Droughty	0.34	Dense layer	0.50
		Water erosion	0.01		
Yalmer, calcareous substratum, dissected----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00
		Droughty	0.97	Cutbanks cave	1.00
		Slope	0.95	Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
272C:					
Frohling, calcareous substratum, dissected	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	0.95	Cutbanks cave	1.00
		Water erosion	0.01	Deep to water	1.00
				Dense layer	0.50
275B:					
Munising, calcareous substratum	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.16	Cutbanks cave	1.00
		Droughty	0.13	Dense layer	0.50
		Water erosion	0.01		
Cookson	40	Very limited		Very limited	
		Water erosion	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
281E:					
Mongo, dissected	95	Very limited		Very limited	
		Water erosion	1.00	Frost action	1.00
		Restricted permeability	1.00	Deep to water	1.00
		Slope	1.00	Slope	1.00
				Cutbanks cave	1.00
				Too clayey	0.50
282B:					
Furlong	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	0.36	Deep to water	1.00
Shingleton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
		Restricted permeability	1.00	Cutbanks cave	1.00
		Slope	0.16		
282D:					
Furlong	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Cutbanks cave	1.00
		Slope	1.00	Deep to water	1.00
				Slope	0.37
Shingleton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
		Restricted permeability	1.00	Cutbanks cave	1.00
		Slope	1.00	Slope	0.37

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
284B:					
Steuben----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Droughty	0.57	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16	Dense layer	0.50
Blue Lake----------	30	Somewhat limited		Very limited	
		Droughty	0.23	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Kalkaska----------	20	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
284D:					
Steuben----------	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.57	Deep to water	1.00
		Water erosion	0.17	Dense layer	0.50
				Slope	0.37
Blue Lake----------	25	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.23	Deep to water	1.00
				Slope	0.37
Kalkaska----------	25	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
284E:					
Steuben----------	40	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Slope	1.00
		Droughty	0.57	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
				Dense layer	0.50
Blue Lake----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.23	Cutbanks cave	1.00
				Deep to water	1.00
Kalkaska----------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
285B:					
Halfaday----------	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.17	Cutbanks cave	1.00
		Slope	0.04		
Kinross----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.04	Cutbanks cave	1.00
				Ponding	1.00
286B:					
Greylock----------	50	Somewhat limited		Very limited	
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
Cookson----------	40	Very limited		Very limited	
		Water erosion	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
287B:					
McMaster----------	55	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	1.00
		Droughty	0.69	Cutbanks cave	1.00
		Slope	0.04		
		Cobble content	0.03		
Davies----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Cobble content	0.94	Cutbanks cave	1.00
		Droughty	0.55	Frost action	1.00
				Ponding	1.00
				Large stones	0.14
290A:					
Namur, very stony---	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Deep to water	1.00
		Water erosion	0.56	Cutbanks cave	1.00
Ruse, very stony----	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.93	Frost action	1.00
		Water erosion	0.56	Ponding	1.00
				Cutbanks cave	1.00
292B:					
Mashek, sandy substratum---------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Cutbanks cave	1.00
		Water erosion	0.01	Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
296D:					
Islandlake----------	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.20	Deep to water	1.00
				Slope	0.16
McMillan----------	35	Very limited		Very limited	
		Water erosion	1.00	Cutbanks cave	1.00
		Slope	1.00	Deep to water	1.00
		Droughty	0.20	Slope	0.16
296E:					
Islandlake----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.60	Cutbanks cave	1.00
				Deep to water	1.00
McMillan----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Water erosion	1.00	Cutbanks cave	1.00
		Droughty	0.20	Deep to water	1.00
297B:					
Rubicon, severely burned----------	95	Somewhat limited		Very limited	
		Droughty	0.90	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
297D:					
Rubicon, severely burned----------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.90	Deep to water	1.00
				Slope	0.26
298B:					
Wurtsmith----------	55	Somewhat limited		Very limited	
		Droughty	0.90	Depth to saturated zone	1.00
		Depth to saturated zone	0.86	Cutbanks cave	1.00
		Slope	0.16		
Deford----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00
				Ponding	1.00
299F:					
Shelldrake----------	99	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.98	Deep to water	1.00
				Slope	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
300F:					
Shelldrake----------	61	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.98	Deep to water	1.00
				Slope	1.00
Dune land----------	38	Not rated		Not rated	
301F:					
Cookson, dissected--	55	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Water erosion	1.00	Slope	1.00
		Depth to bedrock	1.00	Deep to water	1.00
				Cutbanks cave	1.00
Nykanen, dissected--	35	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Cutbanks cave	1.00
		Water erosion	1.00		
302B:					
Dillingham----------	45	Somewhat limited		Very limited	
		Depth to cemented pan	0.99	Cutbanks cave	1.00
				Deep to water	1.00
		Droughty	0.69	Depth to thin cemented pan	0.99
		Slope	0.16		
				Dense layer	0.50
Kalkaska----------	40	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
302D:					
Dillingham----------	52	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Depth to cemented pan	0.99	Deep to water	1.00
				Depth to thin cemented pan	0.99
		Droughty	0.98		
				Dense layer	0.50
				Slope	0.37
Kalkaska----------	45	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
302E:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to cemented pan	0.99	Cutbanks cave	1.00
				Deep to water	1.00
		Droughty	0.98	Depth to thin cemented pan	0.99
				Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
302E:					
Kalkaska----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
302F:					
Dillingham----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to cemented pan	0.99	Cutbanks cave	1.00
				Deep to water	1.00
		Droughty	0.98	Depth to thin cemented pan	0.99
				Dense layer	0.50
Kalkaska----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
303B:					
Kiva----------	55	Somewhat limited		Very limited	
		Droughty	0.32	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
		Slope	0.16		
Trenary----------	30	Somewhat limited		Very limited	
		Water erosion	0.56	Deep to water	1.00
		Slope	0.16	Cutbanks cave	1.00
				Dense layer	0.50
303D:					
Kiva----------	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.32	Deep to water	1.00
		Water erosion	0.17	Slope	0.16
Trenary----------	30	Very limited		Very limited	
		Slope	1.00	Deep to water	1.00
		Water erosion	0.56	Cutbanks cave	1.00
				Dense layer	0.50
				Slope	0.16
303E:					
Kiva----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.32	Cutbanks cave	1.00
		Water erosion	0.17	Deep to water	1.00
Trenary----------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Water erosion	0.56	Deep to water	1.00
				Cutbanks cave	1.00
				Dense layer	0.50

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
305B:					
Wurtsmith----------	55	Somewhat limited		Very limited	
		Droughty	0.90	Depth to saturated zone	1.00
		Depth to saturated zone	0.86	Cutbanks cave	1.00
		Slope	0.36		
Meehan----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.93	Cutbanks cave	1.00
306C:					
Deerton, dissected--	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.83	Cutbanks cave	1.00
		Slope	0.83	Deep to water	1.00
Tokiahok, dissected	30	Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00
		Depth to cemented pan	1.00	Cutbanks cave	1.00
		Droughty	0.95	Deep to water	1.00
				Dense layer	0.50
				Slope	0.16
Jeske, dissected----	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Droughty	0.94	Cutbanks cave	1.00
		Slope	0.62		
307B:					
Rubicon, very deep water table--------	95	Somewhat limited		Very limited	
		Droughty	0.93	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
307D:					
Rubicon, very deep water table--------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.93	Deep to water	1.00
				Slope	0.37
308B:					
Rubicon----------	55	Somewhat limited		Very limited	
		Droughty	0.93	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Sultz----------	40	Somewhat limited		Very limited	
		Droughty	0.86	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
308D:					
Rubicon----------	55	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.93	Deep to water	1.00
				Slope	0.37

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
308D:					
Sultz----------	40	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.86	Deep to water	1.00
				Slope	0.37
309B:					
Rubicon, deep water table----------	95	Somewhat limited		Very limited	
		Droughty	0.93	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
				Depth to saturated zone	0.47
309D:					
Rubicon, deep water table----------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.93	Deep to water	1.00
				Depth to saturated zone	0.47
				Slope	0.37
310B:					
Kalkaska, burned----	90	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
310D:					
Kalkaska, burned----	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
310E:					
Kalkaska, burned----	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.87	Cutbanks cave	1.00
				Deep to water	1.00
311B:					
Kalkaska, very deep water table, burned	95	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
311D:					
Kalkaska, very deep water table, burned	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
312B:					
Islandlake, burned--	95	Somewhat limited		Very limited	
		Droughty	0.60	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
312D:					
Islandlake, burned--	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.60	Deep to water	1.00
				Slope	0.16
313B:					
Kalkaska, deep water table, burned------	95	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.04	Deep to water	1.00
314B:					
Blue Lake, very deep water table, burned	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
		Droughty	0.13	Deep to water	1.00
315B:					
Blue Lake, deep water table, burned	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
		Droughty	0.13	Deep to water	1.00
				Depth to saturated zone	0.47
316B:					
Blue Lake, burned---	95	Somewhat limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00
		Droughty	0.13	Deep to water	1.00
316D:					
Blue Lake, burned---	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.13	Deep to water	1.00
				Slope	0.37
317B:					
Kalkaska, very deep water table--------	95	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.04	Deep to water	1.00
317D:					
Kalkaska, very deep water table--------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
318B:					
Islandlake, very deep water table---	95	Somewhat limited		Very limited	
		Droughty	0.60	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00

Table 15b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Grassed waterways		Drainage	
		Rating class and limiting features	Value	Rating class and limiting features	Value
318D:					
Islandlake, very deep water table---	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.20	Deep to water	1.00
				Slope	0.16
319B:					
Islandlake----------	95	Somewhat limited		Very limited	
		Droughty	0.60	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
319D:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.60	Deep to water	1.00
				Slope	0.16
319E:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.60	Cutbanks cave	1.00
				Deep to water	1.00
319F:					
Islandlake----------	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.20	Cutbanks cave	1.00
				Deep to water	1.00
320B:					
Kalkaska, deep water table----------	95	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.04	Deep to water	1.00
				Depth to saturated zone	0.47
321B:					
Kalkaska----------	50	Somewhat limited		Very limited	
		Droughty	0.87	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
Deerton----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.83	Cutbanks cave	1.00
		Slope	0.16	Deep to water	1.00
321D:					
Kalkaska----------	50	Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.87	Deep to water	1.00
				Slope	0.37
Deerton----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Cutbanks cave	1.00
		Droughty	0.83	Deep to water	1.00
				Slope	0.37

Table 16.--Engineering Index Properties

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

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
10:												
Beaches---------	0-80	Sand	---	---	---	---	---	---	---	---	---	---
11C:												
Deer Park-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-3	Sand	SP-SM, SP	A-3	0	0	100	100	50-70	0-15	0-0	NP
	3-10	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	10-21	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	21-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
11E:												
Deer Park-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-3	Sand	SP-SM, SP	A-3	0	0	100	100	50-70	0-15	0-0	NP
	3-10	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	10-21	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	21-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
11F:												
Deer Park-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-3	Sand	SP-SM, SP	A-3	0	0	100	100	50-70	0-15	0-0	NP
	3-10	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	10-21	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
	21-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	0	100	100	50-95	0-35	0-0	NP
12B:												
Rubicon---------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
12D:												
Rubicon---------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
12E:												
Rubicon---------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
13B:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
13D:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
13E:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
15A:												
Croswell--------	0-2	Moderately decomposed plant material	PT		0	0	100	100	---	---	0-0	NP
	2-6	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	6-15	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	15-22	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	22-80	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
16A:												
Paquin----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-12	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	12-14	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	14-17	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	17-27	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	27-34	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	34-80	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
17A:												
Au Gres---------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Sand	SM	A-3, A-2-4	0	0	95-100	90-100	45-70	5-15	0-0	NP
	7-17	Sand	SM	A-2-4, A-3	0	0	95-100	90-100	45-70	5-15	0-0	NP
	17-28	Sand	SP-SM, SM	A-2-4, A-3	0	0	90-100	85-100	40-70	5-15	0-0	NP
	28-80	Sand	SP-SM, SM	A-2-4, A-3	0	0	90-100	85-100	40-70	5-15	0-0	NP
18:												
Kinross---------	0-3	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-14	Sand	SP-SM, SM	A-2-4, A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	14-22	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	22-35	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	35-80	Sand, fine sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
19:												
Deford----------	0-4	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0-3	90-100	85-100	40-95	5-35	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
21A:												
Ingalls---------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	4-5	Sand	SP-SM, SP	A-3	0	0	90-100	85-100	45-70	0-10	0-31	NP-4
	5-14	Fine sand, loamy sand, sand	SP, SP-SM	A-3, A-2-4	0	0	90-100	85-100	40-95	0-35	0-26	NP-6
	14-16	Loamy sand, fine sand, sand	SP, SP-SM	A-3, A-2-4	0	0	90-100	85-100	40-95	0-35	0-33	NP-6
	16-35	Fine sand, sand, loamy sand	SP, SM, SP-SM	A-3, A-2-4	0	0	90-100	85-100	40-95	0-35	0-26	NP-6
	35-80	Stratified silt loam, stratified loamy fine sand, stratified loamy very fine sand, stratified silt	ML, SM	A-4	0	0	100	100	60-100	35-95	0-27	NP-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
24B:												
Munising--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Loamy fine sand, fine sandy loam, loamy sand, sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
25B:												
Munising--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
25B:												
Yalmer----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-3, A-2-4	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	3-8	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-23	NP-3
	8-11	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	11-24	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-25	NP-3
	24-40	Loamy fine sand, fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0	0-6	85-100	80-100	35-90	10-50	15-25	1-7
	40-66	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-30	4-12
	66-80	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-26	4-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
25D:												
Munising--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
25D:												
Yalmer----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-3, A-2-4	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	3-8	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-23	NP-3
	8-11	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	11-24	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-25	NP-3
	24-40	Loamy fine sand, fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0	0-6	85-100	80-100	35-90	10-50	15-25	1-7
	40-66	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-30	4-12
	66-80	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-26	4-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
31D:												
Trenary---------	0-2	Silt loam, sandy loam, fine sandy loam, very fine sandy loam	SM, ML	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-90	0-20	NP-4
	2-6	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	6-12	Fine sandy loam, sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	12-17	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-65	0-22	NP-5
	17-26	Sandy loam, loamy sand	SM	A-4	0-4	0-8	90-100	85-95	40-70	10-40	0-20	NP-3
	26-37	Sandy clay loam, fine sandy loam	SC, SM	A-6, A-4	0-4	0-8	90-100	85-95	55-90	30-50	25-37	3-17
	37-80	Sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM	A-4	0-4	0-20	70-95	65-90	40-80	20-50	15-24	NP-6
33:												
Ensley----------	0-5	Muck	PT	A-8	0	0	100	100	---	---	0-0	NP
	5-7	Mucky loam, mucky fine sandy loam, mucky sandy loam	SM, ML	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-4
	7-19	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-3
	19-80	Gravelly fine sandy loam	SM	A-4	0-4	0-15	65-85	60-80	45-75	25-50	16-26	NP-8

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
35B:												
Munising, calcareous substratum-----	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-26	2-6
	3-6	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	20-33	2-6
	6-23	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-29	2-6
	23-38	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	35-85	10-50	0-21	NP-4
	38-50	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	35-85	10-50	16-25	2-7
	50-63	Gravelly fine sandy loam	SC-SM	A-4, A-2-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
	63-80	Gravelly fine sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
Yalmer, calcareous substratum-----	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-2	Loamy sand	SM	A-2-4	0	0-3	81-97	76-97	57-80	19-32	0-18	NP
	2-5	Loamy sand, sand	SM, SP-SM	A-2-4, A-3	0	0-3	81-97	76-97	55-78	4-13	0-0	NP
	5-16	Sand, loamy sand	SM	A-2-4	0	0-3	79-96	74-96	54-78	14-26	0-0	NP
	16-28	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM	A-2-4	0	0-2	68-97	62-97	46-79	16-32	0-0	NP
	28-36	Loamy sand, fine sandy loam	SM	A-2-4	0-2	0-6	88-99	85-99	65-84	23-45	0-20	NP-3
	36-62	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-2	0-6	88-99	85-99	75-94	32-45	15-22	NP-5
	62-80	Loamy sand, gravelly fine sandy loam	SM	A-2-4, A-4	0-2	0-6	66-82	59-79	52-76	23-45	18-25	1-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
35B:												
Frohling, calcareous substratum-----	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-5	Fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0	0-8	85-100	80-100	50-95	30-50	0-25	NP-4
	5-24	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	50-95	30-50	0-27	NP-4
	24-73	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	85-100	80-100	50-95	30-50	15-25	1-7
	73-80	Gravelly fine sandy loam	SM	A-2-4, A-4	0-3	3-15	55-95	50-90	45-70	25-45	18-25	2-7
37B:												
Grand Sable-----	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sand, loamy very fine sand, very fine sandy loam	SM, ML	A-4	0	0	100	100	85-95	40-65	0-29	NP-2
	4-30	Loamy very fine sand, loamy fine sand	SM	A-4	0	0	100	100	85-95	40-65	0-18	NP-1
	30-32	Sand, loamy sand	SM	A-2-4	0	0	100	91-100	70-78	24-28	0-14	NP
	32-43	Sand	SP, SP-SM	A-3	0	0-8	90-100	85-100	40-70	0-10	0-14	NP
	43-55	Gravelly sand, sand	SP	A-3	0	0-8	100	60-100	35-70	0-10	0-14	NP
	55-80	Gravelly sand, sand	SP	A-3	0	0-8	100	60-100	35-70	0-10	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
37E:												
Grand Sable-----	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sand, loamy very fine sand, very fine sandy loam	SM, ML	A-4	0	0	100	100	85-95	40-65	0-29	NP-2
	4-30	Loamy very fine sand, loamy fine sand	SM	A-4	0	0	100	100	85-95	40-65	0-18	NP-1
	30-32	Sand, loamy sand	SM	A-2-4	0	0	100	91-100	70-78	24-28	0-14	NP
	32-43	Sand	SP, SP-SM	A-3	0	0-8	90-100	85-100	40-70	0-10	0-14	NP
	43-55	Gravelly sand, sand	SP	A-3	0	0-8	100	60-100	35-70	0-10	0-14	NP
	55-80	Gravelly sand, sand	SP	A-3	0	0-8	100	60-100	35-70	0-10	0-14	NP
38B:												
Rhody-----------	0-19	Silt loam, silt loam, muck	ML	A-4	0	0	100	100	90-100	70-90	0-17	NP-1
	19-36	Sand, gravelly sand	SP, SP-SM	A-3	0	0-15	70-100	65-95	20-70	0-10	0-0	NP
	36-41	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	41-80	Unweathered bedrock	---	---	0	0	---	---	---	---	---	---
Towes-----------	0-19	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	0-30	NP-3
	19-22	Gravelly sand, sand	SP, SP-SM	A-3	---	0-15	70-100	65-95	20-70	0-10	0-14	NP
	22-26	Sand, gravelly sand	SP, SP-SM	A-3	---	0-15	70-100	65-95	20-70	0-10	0-14	NP
	26-37	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	37-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
40B:												
Waiska, very stony----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Sand, cobbly loamy sand, very gravelly loamy sand	SP, SM, GP	A-2-4, A-3, A-1	0	0-30	30-93	16-92	12-76	4-29	0-23	NP-3
	4-8	Very gravelly coarse sand, very cobbly loamy sand, gravelly sand	SM, GP, SP, SP-SM	A-1, A-2-4, A-3	0	0-30	35-95	30-90	20-65	0-25	0-30	NP-3
	8-18	Gravelly sand, very gravelly coarse sand, very gravelly sand	GP, SP, SP-SM	A-1, A-3	0	0-30	35-80	30-75	10-55	0-10	0-24	NP-2
	18-80	Very gravelly sand, extremely gravelly coarse sand, gravelly sand	SP-SM, SP, GP	A-1, A-3	0	0-30	15-80	10-75	5-55	0-10	0-19	NP-2
42:												
Davies----------	0-4	Muck, very cobbly muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-11	Very gravelly sandy loam, very cobbly sandy loam	GM, SM	A-2-4, A-1	0-8	15-44	40-70	35-65	25-55	5-35	0-21	NP-3
	11-80	Very gravelly sand, very cobbly sand	GP-GM, SP	A-3, A-1	0-8	15-44	40-70	35-65	15-55	0-10	0-18	NP-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
46:												
Jacobsville, very stony-----	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-9	Sandy loam, fine sandy loam, loamy sand, cobbly fine sandy loam	SM	A-4, A-2-4	0-8	0-30	75-100	70-100	35-85	10-50	17-28	2-7
	9-23	Cobbly fine sandy loam, fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-30	75-100	70-100	40-85	20-50	19-28	3-10
	23-36	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-8	95-100	90-100	50-85	25-50	17-27	3-10
	36-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
47C:												
Deerton---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Au Train--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Coarse sand	SP, SP-SM	A-1	0	0	95-100	90-100	45-70	0-15	0-21	NP-1
	9-14	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	95-100	90-100	45-70	0-15	0-28	NP-1
	14-32	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
47E:												
Deerton---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Au Train--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Coarse sand	SP, SP-SM	A-1	0	0	95-100	90-100	45-70	0-15	0-21	NP-1
	9-14	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	95-100	90-100	45-70	0-15	0-28	NP-1
	14-32	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
48:												
Burt----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Mucky sand	SP, SP-SM	A-3	0	0-8	85-100	80-100	35-70	0-15	0-65	NP-4
	5-19	Loamy sand, channery sand, sand	SM, SP-SM, SP	A-2-4, A-3	0	0-15	70-100	65-100	35-75	0-30	0-23	NP-6
	19-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
49B:												
Cookson---------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---
51:												
Nahma----------	0-11	Muck	PT	A-8	0	0	100	100	---	---	0-0	NP
	11-14	Mucky loam, loam, fine sandy loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	14-17	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	17-19	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-26	NP-7
	19-24	Fine sandy loam, loam, gravelly fine sandy loam	SC-SM, ML	A-4	0	0-3	95-100	75-100	45-85	25-80	18-32	3-13
	24-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
51:												
Ruse----------	0-7	Mucky silt loam, silt loam, sandy loam, fine sandy loam	SM, ML	A-4, A-2-4	0	0-15	85-100	75-100	45-100	20-90	0-30	NP-11
	7-11	Sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	11-15	Sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	15-80	Bedrock	---	---	---	---	---	---	---	---	---	---
52B:												
Summerville-----	0-3	Very fine sandy loam, fine sandy loam, loam	SM, ML	A-4	0-3	0-8	86-100	82-100	71-96	35-53	0-35	NP-7
	3-13	Fine sandy loam, channery fine sandy loam, very fine sandy loam	SM, ML	A-4	0-8	0-15	70-100	65-100	45-95	25-65	0-24	NP-6
	13-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
57:												
Carbondale------	0-38	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	38-80	Mucky peat	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
Lupton----------	0-4	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-80	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
Tawas----------	0-26	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	26-80	Sand, fine sand, coarse sand, gravelly sand	SP-SM, SP	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
58:												
Dawson----------	0-10	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	10-38	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	38-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	50-100	40-95	0-35	0-0	NP
Greenwood-------	0-65	Mucky peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	65-80	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
Loxley----------	0-8	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	8-80	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
59:												
Chippeny--------	0-20	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	20-28	Silty clay loam, very gravelly sandy loam	CL, SM, CL-ML	A-6, A-4, A-2-4	0	0-15	100	40-100	25-100	5-95	16-50	2-29
	28-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Nahma----------	0-11	Muck	PT	A-8	0	0	100	100	---	---	0-0	NP
	11-14	Mucky loam, loam, fine sandy loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	14-17	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	17-19	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-26	NP-7
	19-24	Fine sandy loam, loam, gravelly fine sandy loam	SC-SM, ML	A-4	0	0-3	95-100	75-100	45-85	25-80	18-32	3-13
	24-80	Bedrock	---	---	---	---	---	---	---	---	---	---
60:												
Histosols-------	0-91	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
Aquents---------	0-80	Variable	---	---	0	0	---	---	---	---	---	---
61. Pits												
62F:												
Udipsamments----	0-80	Sand	---	---	0	0	85-100	75-100	30-75	0-25	0-14	NP
Udorthents------	0-80	Variable	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
64B:												
Kiva----------	0-3	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-30	NP-3
	3-6	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	10-50	0-23	NP-1
	6-15	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-26	NP-4
	15-23	Gravelly loamy sand, sand	SP	A-3, A-2-4	0	0-15	50-100	45-100	25-70	0-30	0-21	NP-1
	23-80	Stratified sand to very gravelly sand to gravelly sand	SP	A-1, A-3	0	0-40	40-100	35-100	10-70	0-10	0-14	NP
64D:												
Kiva----------	0-3	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-30	NP-3
	3-6	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	10-50	0-23	NP-1
	6-15	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-26	NP-4
	15-23	Gravelly loamy sand, sand	SP	A-3, A-2-4	0	0-15	50-100	45-100	25-70	0-30	0-21	NP-1
	23-80	Stratified sand to very gravelly sand to gravelly sand, very gravelly sand	SP	A-1, A-3	0	0-40	40-100	35-100	10-70	0-10	0-14	NP
65D:												
Jeske, bedrock terrace--------	0-3	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-21	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-80	0-10	0-0	NP
	21-31	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
65D:												
Gongeau, bedrock terrace--------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loamy sand	SM	A-2-4	0	0	95-100	90-100	60-80	10-30	0-19	NP-2
	7-18	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-70	0-10	0-0	NP
	18-29	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	29-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Deerton, bedrock terrace--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
65F:												
Jeske, bedrock terrace--------	0-3	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-21	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-80	0-10	0-0	NP
	21-31	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Gongeau, bedrock terrace--------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loamy sand	SM	A-2-4	0	0	95-100	90-100	60-80	10-30	0-19	NP-2
	7-18	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-70	0-10	0-0	NP
	18-29	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	29-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
65F:												
Deerton, bedrock terrace--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
66D:												
Ruse, bedrock terrace--------	0-10	Mucky silt loam	ML	A-4	0	0	95-100	90-100	80-95	65-90	0-19	NP-2
	10-13	Silt loam	ML	A-4	0	0	95-100	90-100	80-95	65-90	0-19	NP-2
	13-19	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	19-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Ensign, bedrock terrace--------	0-10	Fine sandy loam, very fine sandy loam	SM, ML	A-4	0	0-30	95-100	90-100	65-95	35-65	20-33	1-6
	10-14	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0	0-30	95-100	90-100	65-95	35-65	16-29	1-6
	14-18	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	18-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
66D:												
Nykanen, bedrock terrace--------	0-4	Very fine sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0	85-100	80-100	50-95	30-65	0-18	NP-1
	4-14	Very fine sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-4	85-100	80-95	50-95	30-65	0-18	NP-1
	14-25	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	25-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
66F:												
Ruse, bedrock terrace--------	0-10	Mucky silt loam	ML	A-4	0	0	95-100	90-100	80-95	65-90	0-19	NP-2
	10-13	Silt loam	ML	A-4	0	0	95-100	90-100	80-95	65-90	0-19	NP-2
	13-19	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	19-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Ensign, bedrock terrace--------	0-10	Fine sandy loam, very fine sandy loam	SM, ML	A-4	0	0-30	95-100	90-100	65-95	35-65	20-33	1-6
	10-14	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0	0-30	95-100	90-100	65-95	35-65	16-29	1-6
	14-18	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	18-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Nykanen, bedrock terrace--------	0-4	Very fine sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0	85-100	80-100	50-95	30-65	20-31	1-4
	4-14	Very fine sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-4	85-100	80-95	50-95	30-65	0-18	NP-1
	14-25	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	25-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
68. Pits, quarry												
69B:												
Escanaba--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Loamy fine sand, fine sand, loamy sand, sand	SM, SP-SM, SP	A-4, A-3, A-2-4	0	0-8	90-100	85-100	40-95	0-50	0-30	NP-3
	3-6	Sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-23	NP-3
	6-26	Sand, loamy sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-25	NP-3
	26-35	Loamy sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	90-100	85-100	40-95	10-50	17-27	3-10
	35-42	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	90-100	85-100	50-85	25-50	20-30	2-12
	42-80	Gravelly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-25	70-100	65-95	45-65	25-45	17-26	3-9
71A:												
Evart----------	0-10	Loam, silt loam	ML	A-4	0	0-5	95-100	90-100	75-95	55-90	0-35	NP-7
	10-18	Loamy fine sand, sand	SP, SM	A-4, A-3	0	0-5	95-100	90-100	40-95	0-45	0-29	NP-2
	18-80	Sand, fine sand, gravelly sand	SP-SM, SM, SP	A-3, A-1	0	0-5	65-100	60-100	30-95	0-35	0-14	NP
Sturgeon--------	0-6	Very fine sandy loam, silt loam	ML	A-4	0	0	100	100	85-100	50-90	20-33	1-6
	6-16	Silt loam, very fine sandy loam	ML	A-4	0	0	100	100	85-100	50-90	16-24	1-6
	16-80	Loamy fine sand, fine sand, sand	SP-SM, SM, SP	A-3, A-2-4	0	0	100	100	50-95	0-35	0-19	NP-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
72E:												
Deerton, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Tokiahok, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-11	Loamy fine sand	SM	A-2-4	0-4	0-5	85-100	80-95	75-90	30-50	0-26	NP-6
	11-15	Sand, loamy fine sand	SM, SP-SM	A-3, A-2-4	0-3	0-5	85-100	80-95	35-90	5-50	0-33	NP-6
	15-24	Sand, loamy fine sand	SC-SM, SP-SM	A-2-4, A-3	0-3	0-5	85-100	80-95	35-90	5-50	0-29	NP-6
	24-59	Sandy loam, loamy sand	SM	A-4, A-2-4	0-3	0-5	85-100	80-95	45-75	10-40	0-27	NP-10
	59-80	Sandy loam	SC-SM	A-2-4, A-4	0-3	0-5	85-100	80-95	45-70	20-40	18-27	4-10
Trout Bay, dissected------	0-19	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	19-34	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	34-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
72F:												
Deerton, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Channery sand, loamy sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Tokiahok, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-11	Loamy fine sand	SM	A-2-4	0-4	0-5	85-100	80-95	75-90	30-50	0-26	NP-6
	11-15	Sand, loamy fine sand	SM, SP-SM	A-3, A-2-4	0-3	0-5	85-100	80-95	35-90	5-50	0-33	NP-6
	15-24	Sand, loamy fine sand	SC-SM, SP-SM	A-2-4, A-3	0-3	0-5	85-100	80-95	35-90	5-50	0-29	NP-6
	24-59	Sandy loam, loamy sand	SM	A-4, A-2-4	0-3	0-5	85-100	80-95	45-75	10-40	0-27	NP-10
	59-80	Sandy loam	SC-SM	A-2-4, A-4	0-3	0-5	85-100	80-95	45-70	20-40	18-27	4-10
Trout Bay, dissected------	0-19	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	19-34	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	34-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
76C:												
Garlic, dissected------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
76C:												
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
76E:												
Garlic, dissected------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
76E:												
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-3, A-1	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
76F:												
Garlic, dissected------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
76F:												
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
77B:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
77B:												
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
77D:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
77D:												
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
77E:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
77E:												
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Voelker---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	5-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-23	NP-3
	11-15	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	100	95-100	50-95	5-35	0-30	NP-3
	15-31	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-95	5-35	0-30	NP-3
	31-39	Loamy very fine sand, very fine sandy loam, fine sandy loam	SM, ML	A-4	0	0	100	95-100	55-100	15-80	0-27	NP-10
	39-80	Stratified fine sand to loamy very fine sand to silt loam	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
88:												
Cathro----------	0-34	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	34-80	Gravelly fine sandy loam, gravelly sandy loam, gravelly loam	CL-ML, SM	A-6, A-2-4	0-3	0-15	70-95	65-90	40-80	20-70	15-30	NP-11

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
88:												
Ensley----------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loam, mucky fine sandy loam, mucky sandy loam	SM, ML	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-4
	7-19	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-3
	19-80	Gravelly fine sandy loam	SM	A-4	0-4	0-15	65-85	60-80	45-75	25-50	16-26	NP-8
93:												
Tawas----------	0-26	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	26-80	Sand, fine sand, coarse sand, gravelly sand	SP-SM, SP	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
Deford----------	0-4	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0-3	90-100	85-100	40-95	5-35	0-0	NP
95B:												
Liminga---------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-7	Fine sand	SP-SM, SM	A-2-4	0	0-5	95-100	95-100	60-80	10-35	0-14	NP
	7-9	Fine sand	SM, SP-SM	A-2-4	0	0-5	95-100	95-100	60-80	10-35	0-14	NP
	9-22	Fine sand	SP-SM, SM	A-2-4	0	0-5	95-100	95-100	60-80	10-35	0-14	NP
	22-31	Fine sand	SP-SM, SM	A-2-4	0	0-5	95-100	95-100	60-80	10-35	0-14	NP
	31-80	Fine sand	SP-SM, SM	A-2-4	0	0-5	95-100	95-100	60-80	10-35	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
104C:												
Fence, dissected	0-3	Very fine sandy loam	ML	A-4	0	0	100	95-100	85-95	70-80	0-33	NP-6
	3-7	Silt loam, very fine sandy loam	ML	A-4	0	0	100	95-100	85-100	70-90	17-26	2-6
	7-11	Silt loam, very fine sandy loam	ML	A-4	0	0	100	95-100	85-100	70-90	20-33	2-6
	11-19	Silt loam, very fine sandy loam, loamy very fine sand	ML	A-4	0	0	100	95-100	85-100	60-90	0-26	NP-6
	19-42	Loamy very fine sand, silt loam, very fine sandy loam	CL-ML	A-4	0	0	100	95-100	90-100	60-90	22-38	6-18
	42-80	Stratified very fine sand to loamy very fine sand to very fine sandy loam to silty clay loam to silt loam	SM, ML	A-4	0	0	100	95-100	50-100	25-95	0-44	NP-25
109D:												
Rousseau--------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	4-20	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	20-33	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	33-66	Fine sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
	66-80	Fine sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
Dawson----------	0-10	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	10-20	Mucky peat	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	20-38	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	38-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	50-100	40-95	0-35	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
109F:												
Rousseau--------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	4-20	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	20-33	Fine sand	SM	A-2-4	0	0	100	100	75-95	20-35	0-0	NP
	33-66	Fine sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
	66-80	Fine sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
Dawson----------	0-10	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	10-20	Mucky peat	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	20-38	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	38-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	50-100	40-95	0-35	0-0	NP
125B:												
Stutts----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	2-7	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	7-9	Sandy loam, fine sandy loam	SM	A-4	0	0	95-100	90-100	55-85	25-50	0-20	NP-3
	9-13	Fine sandy loam, sandy loam	SM	A-4	0	0	96-100	91-100	69-82	36-45	16-29	1-6
	13-19	Sandy loam, fine sandy loam	SM	A-4	0	0	96-100	90-100	70-82	37-47	0-29	NP-6
	19-80	Sand	SP-SM	A-2-4	0	0	92-100	84-100	64-80	5-11	0-19	NP
Kalkaska--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	6-8	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	8-12	Loamy sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	95-100	85-100	50-75	5-30	0-14	NP-4
	12-23	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	23-38	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	38-80	Sand	SM	A-3, A-2-4	0	0-5	95-100	75-100	50-70	5-15	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
125D:												
Stutts----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	2-7	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	7-9	Sandy loam, fine sandy loam	SM	A-4	0	0	95-100	90-100	55-85	25-50	0-20	NP-3
	9-13	Fine sandy loam, sandy loam	SM	A-4	0	0	96-100	91-100	69-82	36-45	16-29	1-6
	13-19	Sandy loam, fine sandy loam	SM	A-4	0	0	96-100	90-100	70-82	37-47	0-29	NP-6
	19-80	Sand	SP-SM	A-2-4	0	0	92-100	84-100	64-80	5-11	0-19	NP
Kalkaska--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	6-8	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	8-12	Loamy sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	95-100	85-100	50-75	5-30	0-14	NP-4
	12-23	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	23-38	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	38-80	Sand	SM	A-3, A-2-4	0	0-5	95-100	75-100	50-70	5-15	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
125E:												
Stutts----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	0.2-2	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	2-7	Sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	95-100	90-100	55-85	25-50	0-18	NP-1
	7-9	Sandy loam, fine sandy loam	SM	A-4	0	0	95-100	90-100	55-85	25-50	0-20	NP-3
	9-13	Fine sandy loam, sandy loam	SM	A-4	0	0	96-100	91-100	69-82	36-45	16-29	1-6
	13-19	Sandy loam, fine sandy loam	SM	A-4	0	0	96-100	90-100	70-82	37-47	0-29	NP-6
	19-80	Sand	SP-SM	A-2-4	0	0	92-100	84-100	64-80	5-11	0-19	NP
Kalkaska--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	6-8	Loamy sand	SM	A-2-4	0	0-5	95-100	85-100	50-75	15-30	0-14	NP-4
	8-12	Loamy sand, sand	SP-SM, SM	A-2-4, A-3	0	0-5	95-100	85-100	50-75	5-30	0-14	NP-4
	12-23	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	23-38	Sand	SM	A-2-4, A-3	0	0-5	95-100	85-100	50-70	5-15	0-14	NP
	38-80	Sand	SM	A-3, A-2-4	0	0-5	95-100	75-100	50-70	5-15	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
135B:												
Munising, calcareous substratum-----	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-26	2-6
	3-6	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	20-33	2-6
	6-23	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-29	2-6
	23-38	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	35-85	10-50	0-21	NP-4
	38-50	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	35-85	10-50	16-25	2-7
	50-63	Gravelly fine sandy loam	SC-SM	A-4, A-2-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
	63-80	Gravelly fine sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
Ensley----------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loam, mucky fine sandy loam, mucky sandy loam	SM, ML	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-4
	7-19	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-3
	19-80	Gravelly fine sandy loam	SM	A-4	0-4	0-15	65-85	60-80	45-75	25-50	16-26	NP-8

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
145C: Munising, dissected, very stony----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
145C: Yalmer, dissected, very stony----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-3, A-2-4	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	3-8	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-23	NP-3
	8-11	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-30	NP-3
	11-24	Sand, loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0-6	85-100	80-100	35-95	0-35	0-25	NP-3
	24-40	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-6	85-100	80-100	35-90	10-50	15-25	1-7
	40-66	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-30	4-12
	66-80	Fine sandy loam, sandy loam	SC-SM	A-2-4, A-4	0	0-6	85-100	80-100	45-85	20-50	18-26	4-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
146B:												
Munising, stony	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
146B:												
Skanee, stony---	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Cobbly fine sandy loam, fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0-3	0-24	85-100	80-100	40-85	10-50	0-33	NP-6
	8-14	Fine sandy loam, sandy loam, cobbly fine sandy loam	SM	A-2-4, A-4	0-3	0-24	85-100	80-100	50-85	25-50	0-33	NP-6
	14-31	Fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0-3	0-15	90-100	85-100	40-85	10-50	15-25	1-7
	31-42	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-15	90-100	85-95	50-90	25-50	20-44	6-25
	42-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-15	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
147A:												
Skanee, very stony----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Cobbly fine sandy loam, fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0-3	0-24	85-100	80-100	40-85	10-50	0-33	NP-6
	8-14	Fine sandy loam, sandy loam, cobbly fine sandy loam	SM	A-2-4, A-4	0-3	0-24	85-100	80-100	50-85	25-50	0-33	NP-6
	14-31	Fine sandy loam, loamy sand, sandy loam	SM	A-2-4, A-4	0-3	0-15	90-100	85-100	40-85	10-50	15-25	1-7
	31-42	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-15	90-100	85-95	50-90	25-50	20-44	6-25
	42-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-15	90-100	85-95	50-85	25-50	17-25	3-7
Gay, very stony	0-4	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-7	Fine sandy loam, loamy sand, mucky sandy loam, cobbly sandy loam	SM	A-2-4, A-4	0-24	0-15	75-100	70-100	35-85	10-50	0-40	NP-6
	7-11	Sandy loam, cobbly sandy loam, loamy sand	SM	A-2-4, A-4	0-24	0-15	75-100	70-100	35-75	10-40	0-26	NP-6
	11-16	Sandy loam, sandy clay loam, fine sandy loam	SM, SC	A-2-4, A-4, A-6	0-8	0-8	85-100	80-100	50-90	25-50	18-45	3-25
	16-80	Sandy loam	SM	A-2, A-4	0-8	0-8	85-100	80-100	45-70	20-40	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
148B:												
Shoepac---------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-6	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-15	85-100	80-100	50-90	30-85	0-22	NP-5
	6-12	Fine sandy loam	SM	A-4	0-3	0-15	85-100	80-95	55-85	30-50	0-27	NP-4
	12-23	Loamy sand	SM	A-2-4	0-3	0-15	85-100	80-95	35-70	10-30	0-24	NP-2
	23-33	Loamy sand, fine sandy loam	SM	A-2-4	0-3	0-15	90-100	85-95	35-85	10-35	15-26	1-9
	33-53	Fine sandy loam, sandy clay loam	SC, SC-SM	A-6, A-4	0-3	0-15	90-100	85-95	55-85	30-55	20-38	6-19
	53-80	Gravelly fine sandy loam, gravelly sandy loam	SM	A-4	0-3	0-15	70-85	65-80	40-65	25-45	16-25	2-7
Ensley----------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loam, mucky fine sandy loam, mucky sandy loam	SM, ML	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-4
	7-19	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-3
	19-80	Gravelly fine sandy loam	SM	A-4	0-4	0-15	65-85	60-80	45-75	25-50	16-26	NP-8
155A:												
Zeba, very stony	0-2	Sandy loam, cobbly fine sandy loam	SM	A-2-4, A-4	0	0-20	80-100	75-100	45-70	20-40	20-37	2-10
	2-5	Sandy loam, cobbly fine sandy loam	SM	A-4, A-2-4	0	0-20	80-100	75-100	45-85	20-50	0-26	NP-6
	5-13	Cobbly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-20	80-100	75-100	45-70	20-40	17-30	2-7
	13-33	Fine sandy loam, sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	85-100	80-95	35-75	10-50	16-27	2-10
	33-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
155A:												
Jacobsville, very stony-----	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-9	Sandy loam, fine sandy loam, loamy sand, cobbly fine sandy loam	SM	A-4, A-2-4	0-8	0-30	75-100	70-100	35-85	10-50	17-28	2-7
	9-23	Cobbly fine sandy loam, fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-30	75-100	70-100	40-85	20-50	19-28	3-10
	23-36	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-8	95-100	90-100	50-85	25-50	17-27	3-10
	36-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
157B:												
Reade----------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	4-7	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	7-9	Loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-95	35-75	0-24	NP-6
	9-15	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	15-20	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-3	0-11	85-100	80-100	50-95	30-50	0-26	NP-8
	20-28	Fine sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	3-15	80-95	75-90	50-80	30-50	16-27	2-10
	28-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
157B:												
Nahma----------	0-11	Muck	PT	A-8	0	0	100	100	---	---	0-0	NP
	11-14	Mucky loam, loam, fine sandy loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	14-17	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-35	NP-7
	17-19	Fine sandy loam, loam	ML, SC-SM	A-4	0	0	95-100	85-100	50-95	40-90	0-26	NP-7
	19-24	Fine sandy loam, loam, gravelly fine sandy loam	SC-SM, ML	A-4	0	0-3	95-100	75-100	45-85	25-80	18-32	3-13
	24-80	Bedrock	---	---	---	---	---	---	---	---	---	---
158C: Munising, dissected, stony----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
158C:												
Abbaye, dissected, stony----------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Sandy loam, loamy sand, fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0-1	0-6	85-100	80-100	45-95	10-50	0-33	NP-6
	4-13	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SM	A-2-4	0-1	0-6	84-100	76-100	58-83	21-34	0-25	NP-4
	13-25	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-1	0-6	85-100	80-100	45-85	20-50	16-29	1-6
	25-32	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-1	0-85	90-100	80-100	45-95	10-50	18-27	4-10
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
160B:												
Paquin----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-12	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	12-14	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	14-17	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	17-27	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	27-34	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
	34-80	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	50-80	5-30	0-14	NP
Finch----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-11	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	11-42	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	42-80	Fine sand, sand	SP-SM, SP	A-2-4, A-3	0	0	95-100	90-100	50-95	0-35	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
161B:												
Yellowdog, stony	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-32	Very channery sand, extremely channery sand	GW-GM	A-1	0	25-55	25-55	20-50	0-45	0-10	0-14	NP
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Buckroe, stony--	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Very channery loamy sand	GW-GM, SM	A-2-4, A-1	0-15	10-15	35-55	30-50	10-40	5-30	0-22	NP-4
	4-15	Very channery sand	GW-GM, SM	A-1	0-15	10-15	35-55	30-50	5-40	0-20	0-20	NP-2
	15-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
165B:												
Chocolay, very stony----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-3	Very stony fine sandy loam	SM	A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	2-6
	3-8	Very stony fine sandy loam, very gravelly sandy loam, very cobbly fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	0-26	NP-6
	8-14	Very gravelly sandy loam, very cobbly fine sandy loam, very stony fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	1-6
	14-27	Very gravelly sandy loam, very cobbly fine sandy loam	SM, GM	A-4, A-2-4	8-30	25-55	40-70	35-65	25-60	20-45	16-29	1-6
	27-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
165B:												
Waiska, very stony----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Sand, cobbly loamy sand, very gravelly loamy sand	SP, SM, GP	A-2-4, A-3, A-1	0	0-30	30-93	16-92	12-76	4-29	0-23	NP-3
	4-8	Very gravelly coarse sand, very cobbly loamy sand, gravelly sand	SM, GP, SP, SP-SM	A-1, A-2-4, A-3	0	0-30	35-95	30-90	20-65	0-25	0-30	NP-3
	8-18	Very gravelly coarse sand, gravelly sand, very gravelly sand	GP, SP, SP-SM	A-1, A-3	0	0-30	35-80	30-75	10-55	0-10	0-24	NP-2
	18-80	Very gravelly sand, extremely gravelly coarse sand, gravelly sand	SP-SM, SP, GP	A-1, A-3	0	0-30	15-80	10-75	5-55	0-10	0-19	NP-2
166:												
Skandia---------	0-4	Mucky peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-26	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	26-31	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
167:												
Skandia, stony--	0-4	Mucky peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-26	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	26-31	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
167:												
Jacobsville, stony----------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-9	Sandy loam, fine sandy loam, loamy sand, cobbly fine sandy loam	SM	A-4, A-2-4	0-8	0-30	75-100	70-100	35-85	10-50	17-28	2-7
	9-23	Cobbly fine sandy loam, fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-30	75-100	70-100	40-85	20-50	19-28	3-10
	23-36	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-8	95-100	90-100	50-85	25-50	17-27	3-10
	36-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
170B:												
Chocolay, very stony----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-3	Very stony fine sandy loam	SM	A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	2-6
	3-8	Very stony fine sandy loam, very gravelly sandy loam, very cobbly fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	0-26	NP-6
	8-14	Very gravelly sandy loam, very cobbly fine sandy loam, very stony fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	1-6
	14-27	Very gravelly sandy loam, very cobbly fine sandy loam	SM, GM	A-4, A-2-4	8-30	25-55	40-70	35-65	25-60	20-45	16-29	1-6
	27-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
171B:												
Paavola, very stony----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-6	Very gravelly loamy sand	GW-GM, SW-SM, SM	A-1	0-3	8-25	35-65	30-60	10-50	5-20	0-24	NP-2
	6-15	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly coarse sand	GM, GW-GM	A-1	0-15	8-44	20-50	15-45	5-40	0-15	0-28	NP-1
	15-31	Extremely gravelly coarse sand, very gravelly coarse sand	GW-GM	A-1	0-15	8-44	20-50	15-45	5-40	0-10	0-24	NP-1
	31-59	Gravelly sandy loam, gravelly fine sandy loam, very cobbly loamy fine sand, gravelly loamy fine sand	SC-SM	A-4, A-2-4	0-15	0-44	50-90	45-85	35-80	15-50	18-27	4-10
	59-80	Gravelly fine sandy loam, gravelly sandy loam	SM	A-4	0-3	8-15	70-85	65-80	40-65	25-45	16-25	2-7
172D:												
Buckroe, very bouldery-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Very channery loamy sand	GW-GM, SM	A-2-4, A-1	0-15	10-15	35-55	30-50	10-40	5-30	0-22	NP-4
	4-15	Very channery sand	GW-GM, SM	A-1	0-15	10-15	35-55	30-50	5-40	0-20	0-20	NP-2
	15-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
172F:												
Buckroe, very bouldery-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Very channery loamy sand	GW-GM, SM	A-2-4, A-1	0-15	10-15	35-55	30-50	10-40	5-30	0-22	NP-4
	4-15	Very channery sand	GW-GM, SM	A-1	0-15	10-15	35-55	30-50	5-40	0-20	0-20	NP-2
	15-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
176B:												
Croswell--------	0-2	Moderately decomposed plant material	PT		0	0	100	100	---	---	0-0	NP
	2-6	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	6-15	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	15-22	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
	22-80	Sand	SM, SP-SM	A-2-4, A-3	0	0-5	90-100	85-100	40-70	5-15	0-0	NP
Kinross---------	0-3	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-14	Sand	SP-SM, SM	A-2-4, A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	14-22	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	22-35	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	35-80	Sand, fine sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
181E:												
Frohling, dissected, stony----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-2	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	55-85	30-50	20-33	2-6
	2-7	Loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM	A-4, A-2-4	0	0-8	85-100	80-100	35-85	10-50	17-26	2-6
	7-9	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	55-85	30-50	20-33	2-6
	9-16	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	50-85	30-50	17-29	2-6
	16-34	Fine sandy loam, sandy loam, loamy sand, loamy fine sand	SM	A-4, A-2-4	0	0-8	85-100	80-100	35-90	10-50	0-21	NP-4
	34-80	Fine sandy loam, sandy loam, loamy sand, loamy fine sand	SM	A-2-4, A-4	0	0-8	85-100	80-100	35-85	10-50	16-25	2-7
Tokiahok, dissected, stony----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-11	Loamy fine sand	SM	A-2-4	0-4	0-5	85-100	80-95	75-90	30-50	0-26	NP-6
	11-15	Loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0-3	0-5	85-100	80-95	35-90	5-50	0-33	NP-6
	15-24	Sand, loamy fine sand	SM, SP-SM	A-2-4, A-3	0-3	0-5	85-100	80-95	35-90	5-50	0-29	NP-6
	24-59	Sandy loam, loamy sand	SM	A-4, A-2-4	0-3	0-5	85-100	80-95	45-75	10-40	0-27	NP-10
	59-80	Sandy loam	SC-SM	A-2-4, A-4	0-3	0-5	85-100	80-95	45-70	20-40	18-27	4-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
185B:												
McMaster--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Cobbly sandy loam	SM	A-2-4	0-3	10-30	70-95	65-90	35-60	15-35	0-33	NP-6
	4-8	Cobbly loamy sand	SM	A-2-4	0-3	10-30	70-95	65-90	30-65	10-25	0-22	NP-2
	8-11	Cobbly sandy loam	SM	A-2-4	0-3	10-30	70-95	65-90	35-60	15-35	0-35	1-7
	11-24	Very gravelly loamy sand	GW-GM, SW-SM, SM	A-1	0-3	8-25	35-65	30-60	10-50	5-20	0-24	NP-2
	24-39	Very gravelly coarse sand	GM, GW-GM	A-1	0-3	8-30	35-55	30-50	10-40	0-15	0-19	NP-2
	39-80	Extremely gravelly coarse sand	GW, GW-GM	A-1	0-3	15-30	25-35	20-30	5-25	0-10	0-19	NP-2
186B:												
Chatham, stony--	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2, A-4	0-3	0-15	70-100	65-95	45-85	20-50	0-31	NP-4
	6-20	Sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	0-15	70-100	65-95	45-85	20-50	0-27	NP-4
	20-39	Sandy loam, channery fine sandy loam, flaggy fine sandy loam	SM	A-4	3-30	3-30	70-95	65-90	45-85	20-50	0-27	NP-4
	39-80	Extremely flaggy fine sandy loam, very channery loamy sand	GM, SM	A-4, A-2-4	15-50	15-45	30-80	25-75	10-70	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
186D:												
Chatham, stony--	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2, A-4	0-3	0-15	70-100	65-95	45-85	20-50	0-31	NP-4
	6-20	Sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	0-15	70-100	65-95	45-85	20-50	0-27	NP-4
	20-39	Sandy loam, channery fine sandy loam, flaggy fine sandy loam	SM	A-4	3-30	3-30	70-95	65-90	45-85	20-50	0-27	NP-4
	39-80	Extremely flaggy fine sandy loam, very channery loamy sand	GM, SM	A-4, A-2-4	15-50	15-45	30-80	25-75	10-70	5-50	0-23	NP-6
187B:												
Reade----------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	4-7	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	7-9	Loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-95	35-75	0-24	NP-6
	9-15	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	15-20	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-3	0-11	85-100	80-100	50-95	30-50	0-26	NP-8
	20-28	Fine sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	3-15	80-95	75-90	50-80	30-50	16-27	2-10
	28-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
188B:												
Eben, stony-----	0-6	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	20-35	2-7
	6-22	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	17-26	2-7
	22-25	Very cobbly loamy sand	SM	A-2-4	8-20	20-30	50-70	45-65	30-60	10-25	16-24	1-6
	25-35	Extremely gravelly loamy coarse sand	GW-GM, GM	A-1	8-20	15-30	15-40	10-35	5-25	5-20	0-21	NP-4
	35-80	Extremely gravelly coarse sand	GM, GW-GM	A-1	8-20	15-30	15-35	10-30	5-25	0-20	0-19	NP-2
188D:												
Eben, stony-----	0-6	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	20-35	2-7
	6-22	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	17-26	2-7
	22-25	Very cobbly loamy sand	SM	A-2-4	8-20	20-30	50-70	45-65	30-60	10-25	16-24	1-6
	25-35	Extremely gravelly loamy coarse sand	GW-GM, GM	A-1	8-20	15-30	15-40	10-35	5-25	5-20	0-21	NP-4
	35-80	Extremely gravelly coarse sand	GM, GW-GM	A-1	8-20	15-30	15-35	10-30	5-25	0-20	0-19	NP-2
188E:												
Eben, stony-----	0-6	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	20-35	2-7
	6-22	Very cobbly sandy loam	SM	A-2-4	8-20	20-30	50-70	45-65	35-55	15-35	17-26	2-7
	22-25	Very cobbly loamy sand	SM	A-2-4	8-20	20-30	50-70	45-65	30-60	10-25	16-24	1-6
	25-35	Extremely gravelly loamy coarse sand	GW-GM, GM	A-1	8-20	15-30	15-40	10-35	5-25	5-20	0-21	NP-4
	35-80	Extremely gravelly coarse sand	GM, GW-GM	A-1	8-20	15-30	15-35	10-30	5-25	0-20	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
191B:												
Ruse----------	0-7	Mucky silt loam, mucky loam	SM, ML	A-4, A-2-4	0	0-15	85-100	75-100	45-100	20-90	0-30	NP-11
	7-11	Sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	11-15	Sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	15-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Ensign----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Gravelly sandy loam, silt loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0-30	60-100	50-100	30-85	10-80	20-35	1-7
	5-8	Fine sandy loam, gravelly sandy loam, silt loam		A-2-4, A-4	0	0-30	55-100	50-100	30-85	10-80	16-30	1-7
	8-15	Fine sandy loam, gravelly sandy loam, silt loam		A-2-4, A-4	0	0-30	60-100	50-100	30-85	10-80	16-26	1-7
	15-80	Unweathered bedrock	---	---	0	0-30	---	---	---	---	---	---
197B:												
Shoepac----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-6	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-15	85-100	80-100	50-90	30-85	0-22	NP-5
	6-12	Fine sandy loam	SM	A-4	0-3	0-15	85-100	80-95	55-85	30-50	0-27	NP-4
	12-23	Loamy sand	SM	A-2-4	0-3	0-15	85-100	80-95	35-70	10-30	0-24	NP-2
	23-33	Loamy sand, fine sandy loam	SM	A-2-4	0-3	0-15	90-100	85-95	35-85	10-35	15-26	1-9
	33-53	Fine sandy loam, sandy clay loam	SC, SC-SM	A-6, A-4	0-3	0-15	90-100	85-95	55-85	30-55	20-38	6-19
	53-80	Gravelly fine sandy loam, gravelly sandy loam	SM	A-4	0-3	0-15	70-85	65-80	40-65	25-45	16-25	2-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
197B:												
Trenary---------	0-2	Silt loam, sandy loam, fine sandy loam, very fine sandy loam	SM, ML	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-90	0-20	NP-4
	2-6	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	6-12	Fine sandy loam, sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	12-17	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-65	0-22	NP-5
	17-26	Sandy loam, loamy sand	SM	A-4	0-4	0-8	90-100	85-95	40-70	10-40	0-20	NP-3
	26-37	Sandy clay loam, fine sandy loam	SC, SM	A-6, A-4	0-4	0-8	90-100	85-95	55-90	30-50	25-37	3-17
	37-80	Sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM	A-4	0-4	0-20	70-95	65-90	40-80	20-50	15-24	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
198B:												
Shoepac---------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-6	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-15	85-100	80-100	50-90	30-85	0-22	NP-5
	6-12	Fine sandy loam	SM	A-4	0-3	0-15	85-100	80-95	55-85	30-50	0-27	NP-4
	12-23	Loamy sand	SM	A-2-4	0-3	0-15	85-100	80-95	35-70	10-30	0-24	NP-2
	23-33	Loamy sand, fine sandy loam	SM	A-2-4	0-3	0-15	90-100	85-95	35-85	10-35	15-26	1-9
	33-53	Fine sandy loam, sandy clay loam	SC, SC-SM	A-6, A-4	0-3	0-15	90-100	85-95	55-85	30-55	20-38	6-19
	53-80	Gravelly fine sandy loam, gravelly sandy loam	SM	A-4	0-3	0-15	70-85	65-80	40-65	25-45	16-25	2-7
Reade----------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	4-7	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	7-9	Loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-95	35-75	0-24	NP-6
	9-15	Silt loam, fine sandy loam	ML, SM	A-4	0-3	0-11	85-100	80-100	50-100	30-90	0-22	NP-5
	15-20	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-3	0-11	85-100	80-100	50-95	30-50	0-26	NP-8
	20-28	Fine sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	3-15	80-95	75-90	50-80	30-50	16-27	2-10
	28-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
200A:												
Charlevoix------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-5	Silt loam	ML	A-4	0	0-7	90-100	85-100	75-100	55-90	0-20	NP-3
	5-7	Silt loam	ML	A-4	0	0-7	90-100	85-100	75-100	55-90	0-20	NP-3
	7-12	Silt loam, fine sandy loam	SM, ML	A-4	0	0-7	90-100	85-100	55-90	30-90	0-20	NP-3
	12-16	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	2-8	90-100	85-100	55-90	30-50	16-22	NP-5
	16-27	Cobbly fine sandy loam, cobbly loamy fine sand	SM	A-4, A-2-4	0	8-15	80-90	75-85	50-80	30-50	20-26	NP-8
	27-80	Cobbly fine sandy loam, gravelly fine sandy loam	SM	A-4	0-5	8-15	75-90	70-85	45-80	25-50	17-25	NP-7
Ensley----------	0-5	Muck	PT	A-8	0	0	100	100	---	---	0-0	NP
	5-7	Mucky loam, mucky fine sandy loam, mucky sandy loam	SM, ML	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-4
	7-19	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2-4	0-4	0-7	90-100	85-100	50-95	25-75	0-20	NP-3
	19-80	Gravelly fine sandy loam	SM	A-4	0-4	0-15	65-85	60-80	45-75	25-50	16-26	NP-8
202B:												
Sauxhead, very stony----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Sandy loam	SM	A-2-4	0-5	0-10	85-100	80-100	50-70	20-40	0-23	NP-3
	4-14	Very channery loamy sand, very channery sand	SM, GM	A-1, A-2-4	0-5	0-10	35-60	30-55	5-45	0-30	0-21	NP-3
	14-17	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	17-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
206B:												
Traunik---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Cobbly fine sandy loam	SM	A-4, A-2-4	0-3	10-22	70-85	65-80	45-75	25-45	0-20	NP-3
	4-11	Cobbly fine sandy loam	SM	A-4, A-2-4	0-3	10-22	70-85	65-85	45-75	25-45	0-20	NP-3
	11-24	Very gravelly sand	GM, GW-GM, GW	A-1	0-3	15-30	40-60	35-55	10-45	0-15	0-0	NP
	24-31	Very gravelly sand	GM, GW-GM, GW	A-1	0-3	10-25	40-60	35-55	10-45	0-15	0-0	NP
	31-80	Very gravelly sand	GW, GM, GW-GM	A-1	0-3	10-25	40-60	35-55	10-45	0-15	0-0	NP
206D:												
Traunik---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Cobbly fine sandy loam	SM	A-4, A-2-4	0-3	10-22	70-85	65-80	45-75	25-45	0-20	NP-3
	4-11	Cobbly fine sandy loam	SM	A-4, A-2-4	0-3	10-22	70-85	65-85	45-75	25-45	0-20	NP-3
	11-24	Very gravelly sand	GM, GW-GM, GW	A-1	0-3	15-30	40-60	35-55	10-45	0-15	0-0	NP
	24-31	Very gravelly sand	GM, GW-GM, GW	A-1	0-3	10-25	40-60	35-55	10-45	0-15	0-0	NP
	31-80	Very gravelly sand	GW, GM, GW-GM	A-1	0-3	10-25	40-60	35-55	10-45	0-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
211B:												
Munising--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sandy loam, loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	40-85	10-50	0-33	NP-6
	2-10	Loamy sand, fine sandy loam, sandy loam	SM	A-2-4	0-3	0-8	86-98	83-98	62-84	21-35	0-26	NP-6
	10-14	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	20-33	1-6
	14-22	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	16-29	1-6
	22-49	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-3	0-8	90-100	85-95	40-90	10-50	18-26	4-9
	49-63	Fine sandy loam, sandy clay loam, sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0-3	0-8	90-100	85-95	50-90	25-50	20-44	6-25
	63-80	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	50-85	25-50	17-25	3-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
211B:												
Abbaye----------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Sandy loam, loamy sand, fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0-1	0-6	85-100	80-100	45-95	10-50	0-33	NP-6
	4-13	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SM	A-2-4	0-1	0-6	84-100	76-100	58-83	21-34	0-25	NP-4
	13-25	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-1	0-6	85-100	80-100	45-85	20-50	16-29	1-6
	25-32	Loamy sand, fine sandy loam, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-1	0-85	90-100	80-100	45-95	10-50	18-27	4-10
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
214B:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
214D:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
214E:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
221B:												
Jeske----------	0-3	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-21	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-80	0-10	0-0	NP
	21-31	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Au Train--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Coarse sand	SP, SP-SM	A-1	0	0	95-100	90-100	45-70	0-15	0-21	NP-1
	9-14	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	95-100	90-100	45-70	0-15	0-28	NP-1
	14-32	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Gongeau---------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loamy sand	SM	A-2-4	0	0	95-100	90-100	60-80	10-30	0-19	NP-2
	7-18	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-70	0-10	0-0	NP
	18-29	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	29-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
225B:												
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-8	75-100	70-100	35-75	0-30	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
225D:												
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-8	75-100	70-100	35-75	0-30	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2
226B:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand, sand	SM	A-2-4	0	0-7	86-100	83-100	62-85	5-16	0-26	NP-6
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-7	71-100	68-100	50-84	4-16	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2
226D:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
226D:												
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand, sand	SM	A-2-4	0	0-7	86-100	83-100	62-85	5-16	0-26	NP-6
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-7	71-100	68-100	50-84	4-16	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2
226E:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand, sand	SM	A-2-4	0	0-7	86-100	83-100	62-85	5-16	0-26	NP-6
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-7	71-100	68-100	50-84	4-16	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2
226F:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-3, A-2-4	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
226F:												
Cusino----------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Loamy sand, sand	SM	A-2-4	0	0-7	86-100	83-100	62-85	5-16	0-26	NP-6
	8-10	Loamy sand, sand, gravelly sand	SM, SP-SM, SP	A-2-4, A-3	0	0-7	71-100	68-100	50-84	4-16	0-33	NP-6
	10-17	Gravelly sand, sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0-8	75-100	70-100	35-75	0-30	0-22	NP-2
	17-80	Stratified gravelly sand to sand, sand	SP, SP-SM	A-3	0	0-15	60-100	55-100	30-70	0-10	0-19	NP-2
227A:												
Halfaday--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	90-100	85-100	40-75	0-30	0-0	NP
	9-10	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	90-100	85-100	40-75	0-30	0-0	NP
	10-35	Sand	SP	A-3	0	0	90-100	85-100	40-70	0-10	0-0	NP
	35-80	Sand	SP	A-3	0	0	90-100	85-100	40-70	0-10	0-0	NP
232B:												
Shelldrake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-3	Highly decomposed plant material			0	0	100	100	100	90-100	0-0	NP
	3-4	Sand	SP, SP-SM	A-3	0	0	100	100	50-70	0-10	0-0	NP
	4-80	Sand	SP-SM, SP	A-3	0	0	100	100	50-70	0-10	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
233B:												
Abbaye, very stony----------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Sandy loam, loamy sand, fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0-1	0-6	85-100	80-100	45-95	10-50	0-33	NP-6
	4-13	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SM	A-2-4	0-1	0-6	84-100	76-100	58-83	21-34	0-25	NP-4
	13-25	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-1	0-6	85-100	80-100	45-85	20-50	16-29	1-6
	25-32	Fine sandy loam, loamy sand, sandy loam, loamy fine sand	SC-SM	A-2-4, A-4	0-1	0-85	90-100	80-100	45-95	10-50	18-27	4-10
	32-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Zeba, very stony	0-2	Sandy loam, cobbly fine sandy loam	SM	A-2-4, A-4	0	0-20	80-100	75-100	45-70	20-40	20-37	2-10
	2-5	Sandy loam, cobbly fine sandy loam	SM	A-4, A-2-4	0	0-20	80-100	75-100	45-85	20-50	0-26	NP-6
	5-13	Cobbly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-20	80-100	75-100	45-70	20-40	17-30	2-7
	13-33	Fine sandy loam, sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	85-100	80-95	35-75	10-50	16-27	2-10
	33-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
234A:												
Levasseur, very stony----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Highly decomposed plant material		A-8	0	0	100	100	---	---	0-0	NP
	3-8	Extremely flaggy sand, very channery sand	GP	A-1	8-15	15-55	20-70	15-65	0-40	0-10	0-0	NP
	8-13	Extremely flaggy sand, very channery sand	GP	A-1	8-15	15-55	20-70	15-65	0-40	0-10	0-0	NP
	13-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Burt, very stony	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Mucky sand	SP, SP-SM	A-3	0	0-8	85-100	80-100	35-70	0-15	0-65	NP-4
	5-19	Loamy sand, channery sand, sand	SM, SP-SM, SP	A-2-4, A-3	0	0-15	70-100	65-100	35-75	0-30	0-0	NP
	19-80	Bedrock	---	---	---	---	---	---	---	---	---	---
235B:												
Sauxhead, very stony----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Sandy loam	SM	A-2-4	0-5	0-10	85-100	80-100	50-70	20-40	0-23	NP-3
	4-14	Very channery loamy sand, very channery sand	SM, GM	A-1, A-2-4	0-5	0-10	35-60	30-55	5-45	0-30	0-21	NP-3
	14-17	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	17-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
235B:												
Burt, very stony	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-5	Mucky sand	SP, SP-SM	A-3	0	0-8	85-100	80-100	35-70	0-15	0-65	NP-4
	5-19	Loamy sand, channery sand, sand	SM, SP-SM, SP	A-2-4, A-3	0	0-15	70-100	65-100	35-75	0-30	0-23	NP-6
	19-80	Bedrock	---	---	---	---	---	---	---	---	---	---
236B:												
Waiska, extremely bouldery-------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Stony sandy loam	SM	A-2-4	0-15	0-15	90-98	84-97	57-74	19-30	0-26	NP-6
	4-8	Very gravelly coarse sand, very cobbly loamy sand, gravelly sand	SM, GP, SP, SP-SM	A-1, A-2-4, A-3	0	0-30	35-95	30-90	20-65	0-25	0-30	NP-3
	8-18	Very gravelly sand, gravelly sand, very gravelly coarse sand	GP, SP, SP-SM	A-1, A-3	0	0-30	35-80	30-75	10-55	0-10	0-24	NP-2
	18-80	Very gravelly sand, extremely gravelly coarse sand, gravelly sand	SP-SM, SP, GP	A-1, A-3	0	0-30	15-80	10-75	5-55	0-10	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
236D:												
Waiska, extremely bouldery-------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Stony sandy loam	SM	A-2-4	0-15	0-15	90-98	84-97	57-74	19-30	0-26	NP-6
	4-8	Very gravelly coarse sand, very cobbly loamy sand, gravelly sand	SM, GP, SP, SP-SM	A-1, A-2-4, A-3	0	0-30	35-95	30-90	20-65	0-25	0-30	NP-3
	8-18	Gravelly sand, very gravelly coarse sand, very gravelly sand	GP, SP, SP-SM	A-1, A-3	0	0-30	35-80	30-75	10-55	0-10	0-24	NP-2
	18-80	Very gravelly sand, extremely gravelly coarse sand, gravelly sand	SP-SM, SP, GP	A-1, A-3	0	0-30	15-80	10-75	5-55	0-10	0-19	NP-2
237B:												
Chatham---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0-3	0-15	70-100	65-95	45-85	20-50	0-31	NP-4
	6-20	Sandy loam, gravelly fine sandy loam	SM	A-4, A-2-4	0-3	0-15	70-100	65-95	45-85	20-50	0-27	NP-4
	20-39	Sandy loam, channery fine sandy loam, flaggy fine sandy loam	SM	A-4	3-30	3-30	70-95	65-90	45-85	20-50	0-27	NP-4
	39-80	Extremely flaggy fine sandy loam, very channery loamy sand	GM, SM	A-4, A-2-4	15-50	15-45	30-80	25-75	10-70	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
237B:												
Davies----------	0-4	Muck, very cobbly muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-11	Very gravelly sandy loam, very cobbly sandy loam	GM, SM	A-2-4, A-1	0-8	15-44	40-70	35-65	25-55	5-35	0-21	NP-3
	11-80	Very gravelly sand, very cobbly sand	GP-GM, SP	A-3, A-1	0-8	15-44	40-70	35-65	15-55	0-10	0-18	NP-1
239B:												
Longrie---------	0-4	Fine sandy loam, sandy loam, silt loam	ML, SM	A-4, A-2-4	0	0-20	85-100	80-100	45-95	20-90	20-35	1-7
	4-9	Silt loam, sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-20	85-100	80-100	45-95	20-90	0-25	NP-4
	9-11	Silt loam, fine sandy loam, gravelly sandy loam	ML, SM	A-2-4, A-4	0	0-20	55-100	50-100	30-85	10-80	20-35	1-7
	11-27	Gravelly sandy loam, fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-20	55-100	50-100	30-85	10-80	16-30	1-7
	27-31	Sandy loam, fine sandy loam, gravelly loam	SM, ML	A-2-4, A-4	0	0-23	80-100	76-100	67-99	30-50	15-30	1-12
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Shingleton------	0-1	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	1-7	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	7-8	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	8-11	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	11-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
240F:												
Trout Bay-------	0-19	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	19-34	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	34-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Gongeau---------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loamy sand	SM	A-2-4	0	0	95-100	90-100	60-80	10-30	0-19	NP-2
	7-18	Sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-70	0-10	0-0	NP
	18-29	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	29-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Shingleton------	0-1	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	1-7	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	7-8	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	8-11	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	11-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
241:												
Cathro----------	0-46	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	46-80	Fine sandy loam, sandy loam, silt loam	ML, SM	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-80	16-32	2-13

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
241:												
Gay----------	0-4	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-7	Fine sandy loam, loamy sand, mucky sandy loam, cobbly sandy loam	SM	A-2-4, A-4	0-24	0-15	75-100	70-100	35-85	10-50	0-40	NP-6
	7-11	Sandy loam, cobbly sandy loam, loamy sand	SM	A-2-4, A-4	0-24	0-15	75-100	70-100	35-75	10-40	0-26	NP-6
	11-16	Sandy loam, sandy clay loam, fine sandy loam	SM, SC	A-2-4, A-4, A-6	0-8	0-8	85-100	80-100	50-90	25-50	18-45	3-25
	16-80	Sandy loam	SM	A-2, A-4	0-8	0-8	85-100	80-100	45-70	20-40	17-25	3-7
242B:												
Kalkaska, severely burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
242D:												
Kalkaska, severely burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
242F:												
Kalkaska, severely burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
243:												
Markey----------	0-3	Mucky peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-20	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	20-80	Sand	SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
245B:												
Trout Bay-------	0-19	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	19-34	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	34-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Lupton----------	0-4	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-80	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
Gongeau---------	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-7	Mucky loamy sand	SM	A-2-4	0	0	95-100	90-100	60-80	10-30	0-19	NP-2
	7-18	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-70	0-10	0-0	NP
	18-29	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	29-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
246B:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-0	NP
246D:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
246E:												
Garlic----------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	20-29	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-0	NP
	29-80	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-0	NP
248B:												
Escanaba--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Loamy fine sand, fine sand, loamy sand, sand	SM, SP-SM, SP	A-4, A-3, A-2-4	0	0-8	90-100	85-100	40-95	0-50	0-30	NP-3
	3-6	Sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-23	NP-3
	6-26	Sand, loamy sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-25	NP-3
	26-35	Loamy sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	90-100	85-100	40-95	10-50	17-27	3-10
	35-42	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	90-100	85-100	50-85	25-50	20-30	2-12
	42-80	Gravelly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-25	70-100	65-95	45-65	25-45	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
248B:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
248D:												
Escanaba--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Loamy fine sand, fine sand, loamy sand, sand	SM, SP-SM, SP	A-4, A-3, A-2-4	0	0-8	90-100	85-100	40-95	0-50	0-30	NP-3
	3-6	Sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-23	NP-3
	6-26	Sand, loamy sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-25	NP-3
	26-35	Loamy sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	90-100	85-100	40-95	10-50	17-27	3-10
	35-42	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	90-100	85-100	50-85	25-50	15-25	2-10
	42-80	Gravelly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-25	70-100	65-95	45-65	25-45	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
248D:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
248E:												
Escanaba--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Loamy fine sand, fine sand, loamy sand, sand	SM, SP-SM, SP	A-4, A-3, A-2-4	0	0-8	90-100	85-100	40-95	0-50	0-30	NP-3
	3-6	Sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-23	NP-3
	6-26	Sand, loamy sand, fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3, A-4	0	0-8	90-100	85-100	40-95	0-50	0-25	NP-3
	26-35	Loamy sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	90-100	85-100	40-95	10-50	17-27	3-10
	35-42	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	90-100	85-100	50-85	25-50	15-25	2-10
	42-80	Gravelly fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-25	70-100	65-95	45-65	25-45	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
248E:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9
249B:												
Sauxhead--------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Sandy loam	SM	A-2-4	0-5	0-10	85-100	80-100	50-70	20-40	0-23	NP-3
	4-14	Very channery loamy sand, very channery sand	SM, GM	A-1, A-2-4	0-5	0-10	35-60	30-55	5-45	0-30	0-21	NP-3
	14-17	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	17-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
249B:												
Skandia---------	0-4	Mucky peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-26	Muck	PT	A-8	0	0	100	100	90-100	40-100	0-0	NP
	26-31	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
250B:												
Chocolay, extremely stony	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-3	Very stony fine sandy loam	SM	A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	2-6
	3-8	Very stony fine sandy loam, very gravelly sandy loam, very cobbly fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	0-26	NP-6
	8-14	Very gravelly sandy loam, very cobbly fine sandy loam, very stony fine sandy loam	GM, SM	A-2-4, A-4	8-30	25-55	40-70	35-65	25-60	20-45	20-33	1-6
	14-27	Very gravelly sandy loam, very cobbly fine sandy loam	SM, GM	A-4, A-2-4	8-30	25-55	40-70	35-65	25-60	20-45	16-29	1-6
	27-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
250B:												
Jacobsville, extremely stony	0-5	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	5-9	Sandy loam, fine sandy loam, loamy sand, cobbly fine sandy loam	SM	A-4, A-2-4	0-8	0-30	75-100	70-100	35-85	10-50	17-28	2-7
	9-23	Cobbly fine sandy loam, fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-30	75-100	70-100	40-85	20-50	19-28	3-10
	23-36	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0-8	0-8	95-100	90-100	50-85	25-50	17-27	3-10
	36-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
251B:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
251D:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9
252A:												
Finch----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-11	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	11-42	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	42-80	Fine sand, sand	SP-SM, SP	A-2-4, A-3	0	0	95-100	90-100	50-95	0-35	0-0	NP
Kinross---------	0-3	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-14	Sand	SP-SM, SM	A-2-4, A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	14-22	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	22-35	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	35-80	Sand, fine sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
254C:												
Kalkaska, dissected------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
254E:												
Kalkaska, dissected------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
254E:												
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
254F:												
Kalkaska, dissected------	0-2	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-3, A-2-4	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
Blue Lake, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
255D:												
Wallace---------	0-2	Moderately decomposed plant material	PT		0	0	100	100	---	---	0-0	NP
	2-10	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	95-100	95-100	45-70	5-30	0-14	NP
	10-11	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	95-100	45-70	0-30	0-14	NP
	11-21	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	95-100	45-70	0-30	0-14	NP
	21-26	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	95-100	45-70	0-30	0-14	NP
	26-59	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	95-100	45-70	0-30	0-14	NP
	59-80	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	95-100	45-70	0-30	0-14	NP
256B:												
Whitewash-------	0-3	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	0	100	90-100	50-95	0-35	0-0	NP
	7-9	Silt loam, fine sandy loam	ML, SM	A-4	0	0	100	100	65-100	40-80	15-25	NP-7
	9-80	Stratified sand to fine sandy loam to silt loam, loamy fine sand, fine sand	SM, SP-SM	A-2-4	0	0	100	90-100	50-95	5-20	0-0	NP
266A:												
Spot----------	0-2	Peat	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-8	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	5-35	0-21	NP-4
	8-10	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	5-35	0-21	NP-4
	10-18	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	5-35	0-21	NP-4
	18-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	5-35	0-21	NP-4
Finch----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-11	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	11-42	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	42-80	Fine sand, sand	SP-SM, SP	A-2-4, A-3	0	0	95-100	90-100	50-95	0-35	0-0	NP
267A:												
Finch----------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-11	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	11-42	Sand	SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-70	0-10	0-0	NP
	42-80	Fine sand, sand	SP-SM, SP	A-2-4, A-3	0	0	95-100	90-100	50-95	0-35	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
268C:												
Munising, calcareous substratum, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-26	2-6
	3-6	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	20-33	2-6
	6-23	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-29	2-6
	23-38	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	35-85	10-50	0-21	NP-4
	38-50	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	35-85	10-50	16-25	2-7
	50-63	Gravelly fine sandy loam	SC-SM	A-4, A-2-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
	63-80	Gravelly fine sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
Frohling, calcareous substratum, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-5	Fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0	0-8	85-100	80-100	50-95	30-50	0-25	NP-4
	5-24	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	50-95	30-50	0-27	NP-4
	24-73	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	85-100	80-100	50-95	30-50	15-25	1-7
	73-80	Gravelly fine sandy loam	SM	A-2-4, A-4	0-3	3-15	55-95	50-90	45-70	25-45	18-25	2-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
268C:												
Cookson, dissected------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
269E:												
Frohling, calcareous substratum, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-5	Fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0	0-8	85-100	80-100	50-95	30-50	0-25	NP-4
	5-24	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	50-95	30-50	0-27	NP-4
	24-73	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	85-100	80-100	50-95	30-50	15-25	1-7
	73-80	Gravelly fine sandy loam	SM	A-2-4, A-4	0-3	3-15	55-95	50-90	45-70	25-45	18-25	2-7
Garlic, dissected------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	45-70	0-10	0-26	NP-6
	9-11	Fine sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-33	NP-6
	11-20	Sand, fine sand	SP, SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	45-95	0-35	0-29	NP-6
	20-29	Sand, fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6
	29-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-3	0	0	95-100	90-100	45-95	0-35	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
269E:												
Cookson, dissected------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
272C:												
Munising, calcareous substratum, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-26	2-6
	3-6	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	20-33	2-6
	6-23	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-29	2-6
	23-38	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	35-85	10-50	0-21	NP-4
	38-50	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	35-85	10-50	16-25	2-7
	50-63	Gravelly fine sandy loam	SC-SM	A-4, A-2-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
	63-80	Gravelly fine sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
Yalmer, calcareous substratum, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-2	Loamy sand	SM	A-2-4	0	0-3	81-97	76-97	57-80	19-32	0-18	NP
	2-5	Loamy sand, sand	SM, SP-SM	A-2-4, A-3	0	0-3	81-97	76-97	57-80	6-15	0-25	NP-4
	5-16	Sand, loamy sand	SM	A-2-4	0	0-3	79-96	74-96	54-78	14-26	0-0	NP
	16-28	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM	A-2-4	0	0-2	68-97	62-97	46-79	16-32	0-0	NP
	28-36	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-2	0-6	88-99	85-99	65-84	23-45	0-20	NP-3
	36-62	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-2	0-6	88-99	85-99	75-94	32-45	15-22	NP-5
	62-80	Loamy sand, fine sandy loam	SM	A-2-4	0-2	0-6	66-82	59-79	52-76	23-45	18-25	1-7

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
272C:												
Frohling, calcareous substratum, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-5	Fine sandy loam, loamy fine sand	SM	A-4, A-2-4	0	0-8	85-100	80-100	50-95	30-50	0-25	NP-4
	5-24	Fine sandy loam	SM	A-4	0	0-8	85-100	80-100	50-95	30-50	0-27	NP-4
	24-73	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0-8	85-100	80-100	50-95	30-50	15-25	1-7
	73-80	Gravelly fine sandy loam	SM	A-2-4, A-4	0-3	3-15	55-95	50-90	45-70	25-45	18-25	2-7
275B:												
Munising, calcareous substratum-----	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-3	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-26	2-6
	3-6	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	20-33	2-6
	6-23	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-95	55-85	30-50	17-29	2-6
	23-38	Loamy sand, fine sandy loam	SM	A-4, A-2-4	0-3	0-8	90-100	85-95	35-85	10-50	0-21	NP-4
	38-50	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-3	0-8	90-100	85-95	35-85	10-50	16-25	2-7
	50-63	Gravelly fine sandy loam	SC-SM	A-4, A-2-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10
	63-80	Gravelly fine sandy loam	SC-SM	A-2-4, A-4	0-3	0-8	70-90	65-85	45-75	25-45	18-27	4-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
275B:												
Cookson---------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---
281E:												
Mongo, dissected	0-1	Slightly decomposed plant material	PT		0	0	100	100	---	---	0-0	NP
	1-6	Silt loam	ML	A-4	0	0	100	100	90-100	65-95	0-33	NP-6
	6-22	Silty clay loam, silt loam	CL, ML	A-7, A-4	0	0	100	100	90-100	65-100	16-50	2-29
	22-38	Silty clay	CH	A-7	0	0	100	100	95-100	90-100	48-69	28-44
	38-80	Stratified silt loam to silt to silty clay loam	CL, ML	A-7, A-4	0	0	100	100	90-100	85-100	16-50	2-29

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
282B:												
Furlong---------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand	SP-SM, SP	A-3	0	0	95-100	95-100	45-70	0-10	0-29	NP-2
	2-5	Loamy sand, sand	SM, SP, SP-SM	A-3, A-2-4	0	0	95-100	95-100	45-75	0-30	0-26	NP-6
	5-7	Loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0	0	90-100	85-100	40-75	0-30	0-33	NP-6
	7-19	Loamy sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	90-100	85-100	40-75	0-30	0-29	NP-6
	19-22	Sand	SP, SP-SM	A-3	0	0	90-100	85-100	40-75	0-10	0-19	NP-2
	22-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Shingleton------	0-1	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	1-7	Loamy sand, sand	SM	A-3, A-2-4	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	7-8	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	8-11	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	11-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
282D:												
Furlong---------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand	SP-SM, SP	A-3	0	0	95-100	95-100	45-70	0-10	0-29	NP-2
	2-5	Loamy sand, sand	SM, SP, SP-SM	A-3, A-2-4	0	0	95-100	95-100	45-75	0-30	0-26	NP-6
	5-7	Loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0	0	90-100	85-100	40-75	0-30	0-33	NP-6
	7-19	Loamy sand, sand	SP, SP-SM, SM	A-3, A-2-4	0	0	90-100	85-100	40-75	0-30	0-29	NP-6
	19-22	Sand	SP, SP-SM	A-3	0	0	90-100	85-100	40-75	0-10	0-19	NP-2
	22-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
282D:												
Shingleton------	0-1	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	1-7	Loamy sand, sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	7-8	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	8-11	Sand, loamy sand	SM	A-2-4, A-3	0	0-5	92-100	85-100	47-75	7-30	0-19	NP
	11-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
284B:												
Steuben---------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	16-25	1-4
	8-16	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	21-36	3-9
	16-21	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	18-32	3-9
	21-40	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-4	0-8	90-100	85-100	50-90	30-50	16-25	2-7
	40-45	Sand, loamy sand	SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-75	0-30	0-19	NP-2
	45-80	Gravelly sand, sand	SP	A-3	0-4	0-8	80-100	75-100	35-70	0-10	0-14	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
284B:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
284D:												
Steuben---------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	16-25	1-4
	8-16	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	21-36	3-9
	16-21	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	18-32	3-9
	21-40	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-4	0-8	90-100	85-100	50-90	30-50	16-25	2-7
	40-45	Sand, loamy sand	SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-75	0-30	0-19	NP-2
	45-80	Gravelly sand, sand	SP	A-3	0-4	0-8	80-100	75-100	35-70	0-10	0-14	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
284E:												
Steuben---------	0-2	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-8	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	16-25	1-4
	8-16	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	21-36	3-9
	16-21	Fine sandy loam	SM	A-4	0-3	0-8	90-100	85-100	55-85	30-50	18-32	3-9
	21-40	Fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0-4	0-8	90-100	85-100	50-90	30-50	16-25	2-7
	40-45	Sand, loamy sand	SP-SM, SM	A-3, A-2-4	0	0	95-100	90-100	45-75	0-30	0-19	NP-2
	45-80	Gravelly sand, sand	SP	A-3	0-4	0-8	80-100	75-100	35-70	0-10	0-14	NP
Blue Lake-------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-7	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-25	NP-4
	7-9	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-31	NP-4
	9-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-27	NP-4
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	2-6	Sand	SP-SM, SM	A-3, A-2-4	0	0-3	95-100	85-100	40-70	5-15	0-24	NP-6
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-33	NP-6
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-29	NP-6
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-23	NP-6
285B:												
Halfaday--------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-9	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	90-100	85-100	40-75	0-30	0-0	NP
	9-10	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	90-100	85-100	40-75	0-30	0-0	NP
	10-35	Sand	SP	A-3	0	0	90-100	85-100	40-70	0-10	0-0	NP
	35-80	Sand	SP	A-3	0	0	90-100	85-100	40-70	0-10	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
285B:												
Kinross---------	0-3	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-14	Sand	SP-SM, SM	A-2-4, A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	14-22	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	22-35	Sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
	35-80	Sand, fine sand	SP-SM	A-3	0	0	100	90-100	50-80	5-30	0-14	NP
286B:												
Greylock--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-6	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	0-31	NP-4
	6-7	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	0-25	NP-4
	7-9	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	9-19	Fine sandy loam, sandy loam	SM	A-2-4, A-4	0	0-15	90-100	85-95	50-85	25-50	16-33	1-6
	19-26	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	26-34	Sandy loam, fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-15	90-100	85-95	40-85	10-50	17-27	3-10
	34-80	Sandy loam, gravelly fine sandy loam	SM	A-2-4, A-4	0	0-15	85-100	80-95	45-85	20-50	17-26	3-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
286B:												
Cookson---------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
287B:												
McMaster---------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-4	Cobbly sandy loam	SM	A-2-4	0-3	10-30	70-95	65-90	35-60	15-35	0-33	NP-6
	4-8	Cobbly loamy sand	SM	A-2-4	0-3	10-30	70-95	65-90	30-65	10-25	0-22	NP-2
	8-11	Cobbly sandy loam	SM	A-2-4	0-3	10-30	70-95	65-90	35-60	15-35	0-35	1-7
	11-24	Very gravelly loamy sand	GW-GM, SW-SM, SM	A-1	0-3	8-25	35-65	30-60	10-50	5-20	0-24	NP-2
	24-39	Very gravelly coarse sand	GM, GW-GM	A-1	0-3	8-30	35-55	30-50	10-40	0-15	0-19	NP-2
	39-80	Extremely gravelly coarse sand	GW, GW-GM	A-1	0-3	15-30	25-35	20-30	5-25	0-10	0-19	NP-2
Davies----------	0-4	Muck, very cobbly muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-11	Very gravelly sandy loam, very cobbly sandy loam	GM, SM	A-2-4, A-1	0-8	15-44	40-70	35-65	25-55	5-35	0-21	NP-3
	11-80	Very gravelly sand, very cobbly sand	GP, SP	A-3, A-1	0-8	15-44	40-70	35-65	15-55	0-10	0-18	NP-1
290A:												
Namur, very stony----------	0-3	Silt loam	ML	A-4	0	0-5	85-100	80-95	75-90	55-90	0-20	NP-3
	3-6	Silt loam	ML	A-4	0	0-5	85-100	80-95	75-90	55-90	0-20	NP-3
	6-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Ruse, very stony	0-7	Mucky silt loam, mucky loam	SM, ML	A-4, A-2-4	0	0-15	85-100	75-100	45-100	20-90	0-30	NP-11
	7-11	Sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	11-15	Sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0-15	85-100	75-100	45-85	20-50	0-30	NP-11
	15-80	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
292B:												
Mashek, sandy substratum-----	0-6	Fine sandy loam	SM	A-4, A-2-4	0-8	0-8	90-100	85-95	55-85	30-50	0-30	NP-3
	6-11	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-8	0-8	90-100	85-95	40-85	10-50	0-27	NP-4
	11-38	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0-8	0-8	90-100	85-95	40-85	10-50	0-26	NP-9
	38-63	Gravelly fine sandy loam, cobbly fine sandy loam	SM	A-2-4, A-4	0-8	0-30	70-95	65-90	45-80	25-50	17-25	3-7
	63-80	Very gravelly sand	SP-SM, GP-GM	A-1	0-8	0-23	45-65	40-60	20-50	0-10	0-18	NP-1
296D:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
296D:												
McMillan--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sandy loam	SM, SC-SM	A-4	0	0-7	95-100	85-100	55-75	30-50	0-25	NP-7
	4-6	Fine sandy loam	SM, SC-SM	A-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	6-9	Very fine sandy loam, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	9-16	Very fine sandy loam, fine sandy loam	SM, SC-SM	A-4, A-2-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	16-22	Loamy fine sand, loamy sand	SM, SP-SM, SC-SM	A-2-4, A-3	0	0-7	90-100	85-100	50-80	5-45	0-14	NP
	22-32	Sand, fine sand	SM, SP-SM, SC-SM	A-2-4, A-3	0	0-7	90-100	85-100	50-80	5-45	0-14	NP
	32-80	Stratified sand to loamy sand	SC-SM, SM, SP-SM	A-2, A-3, A-1	0	0-7	90-100	85-100	35-75	5-30	0-14	NP
296E:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
296E:												
McMillan--------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Fine sandy loam	SM, SC-SM	A-4	0	0-7	95-100	85-100	55-75	30-50	0-25	NP-7
	4-6	Fine sandy loam	SM, SC-SM	A-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	6-9	Very fine sandy loam, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	9-16	Very fine sandy loam, fine sandy loam	SM, SC-SM	A-4, A-2-4	0	0-7	95-100	85-100	55-80	30-55	0-25	NP-7
	16-22	Loamy fine sand, loamy sand	SM, SP-SM, SC-SM	A-2-4, A-3	0	0-7	90-100	85-100	50-80	5-45	0-14	NP
	22-32	Sand, fine sand	SM, SP-SM, SC-SM	A-2-4, A-3	0	0-7	90-100	85-100	50-80	5-45	0-14	NP
	32-80	Stratified sand to loamy sand	SC-SM, SM, SP-SM	A-2, A-3, A-1	0	0-7	90-100	85-100	35-75	5-30	0-14	NP
297B:												
Rubicon, severely burned	0-3	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	3-28	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	28-36	Sand, coarse sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	36-80	Sand, coarse sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
297D:												
Rubicon, severely burned	0-3	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	3-28	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	28-36	Sand, coarse sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP
	36-80	Sand, coarse sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	75-100	35-70	0-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
298B:												
Wurtsmith-------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	85-100	80-100	35-75	0-30	0-22	NP-2
	4-24	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	85-100	80-100	35-70	0-10	0-14	NP
	24-80	Coarse sand, sand	SP, SP-SM	A-1, A-3	0	0	85-100	80-100	35-70	0-10	0-14	NP
Deford----------	0-4	Muck	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	4-80	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0-3	90-100	85-100	40-95	5-35	0-23	NP-6
299F:												
Shelldrake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-3	Highly decomposed plant material			0	0	100	100	100	90-100	0-0	NP
	3-4	Sand	SP, SP-SM	A-3	0	0	100	100	50-70	0-10	0-0	NP
	4-80	Sand	SP, SP-SM	A-3	0	0	100	100	50-70	0-10	0-0	NP
300F:												
Shelldrake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	1-3	Highly decomposed plant material			0	0	100	100	100	90-100	0-0	NP
	3-4	Sand	SP, SP-SM	A-3	0	0	100	100	50-70	0-10	0-0	NP
	4-80	Sand	SP-SM, SP	A-3	0	0	100	100	50-70	0-10	0-0	NP
Dune land.												

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
301F:												
Cookson, dissected------	0-3	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-7	Very fine sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-4	88-100	76-100	64-100	31-59	0-33	NP-12
	7-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	89-100	78-100	65-100	31-58	0-40	NP-12
	11-16	Very fine sandy loam, fine sandy loam, sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	88-100	75-100	59-97	31-59	0-36	NP-12
	16-21	Fine sandy loam, sandy loam, loamy fine sand	ML, SM	A-4, A-2-4	0	0-3	88-100	75-100	59-96	21-51	0-31	NP-12
	21-31	Sandy clay loam, fine sandy loam, sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0-3	80-100	78-100	58-94	24-50	16-37	2-17
	31-36	Loam, sandy loam, fine sandy loam, silt loam	SM, ML	A-2-4, A-4	0	0-3	80-100	78-100	55-96	22-53	0-36	NP-17
	36-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Nykanen, dissected------	0-4	Very fine sandy loam, fine sandy loam	SM, ML	A-2-4, A-4	0	0	85-100	80-100	50-95	30-65	20-31	1-4
	4-14	Very fine sandy loam, fine sandy loam	ML, SM	A-2-4, A-4	0	0-4	85-100	80-95	50-95	30-65	0-18	NP-1
	14-25	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	25-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
302B:												
Dillingham------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-8	Loamy sand, loamy fine sand	SM	A-2-4	0	0-7	95-100	85-100	40-80	15-30	0-20	NP
	8-11	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	11-21	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	21-31	Loamy sand, sandy loam, sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP-5
	31-80	Stratified loamy sand to loamy fine sand to sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
302D:												
Dillingham------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-8	Loamy sand, loamy fine sand	SM	A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	8-11	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	11-21	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	21-31	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP-5
	31-80	Sand, stratified sand to loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
302E:												
Dillingham------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-8	Loamy sand, loamy fine sand	SM	A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	8-11	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	11-21	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	21-31	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP-5
	31-80	Sand, stratified sand to loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
302F:												
Dillingham------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-8	Loamy sand, loamy fine sand	SM	A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	8-11	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	11-21	Loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
	21-31	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP-5
	31-80	Sand, stratified sand to loamy sand	SP-SM, SM	A-4, A-2-4	0	0-7	95-100	85-100	40-80	10-40	0-20	NP
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
303B:												
Kiva----------	0-3	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-30	NP-3
	3-6	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	10-50	0-23	NP-1
	6-15	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-26	NP-4
	15-23	Gravelly loamy sand, sand	SP	A-3, A-2-4	0	0-15	50-100	45-100	25-70	0-30	0-21	NP-1
	23-80	Stratified sand to very gravelly sand to gravelly sand	SP	A-1, A-3	0	0-40	40-100	35-100	10-70	0-10	0-14	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
303B:												
Trenary---------	0-2	Silt loam, sandy loam, fine sandy loam, very fine sandy loam	SM, ML	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-90	0-20	NP-4
	2-6	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	6-12	Fine sandy loam, sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	12-17	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-65	0-22	NP-5
	17-26	Sandy loam, loamy sand	SM	A-4	0-4	0-8	90-100	85-95	40-70	10-40	0-20	NP-3
	26-37	Sandy clay loam, fine sandy loam	SC, SM	A-6, A-4	0-4	0-8	90-100	85-95	55-90	30-50	25-37	3-17
	37-80	Sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM	A-4	0-4	0-20	70-95	65-90	40-80	20-50	15-24	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
303D:												
Kiva----------	0-3	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-30	NP-3
	3-6	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	10-50	0-23	NP-1
	6-15	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-26	NP-4
	15-23	Gravelly loamy sand, sand	SP	A-3, A-2-4	0	0-15	50-100	45-100	25-70	0-30	0-21	NP-1
	23-80	Stratified sand to very gravelly sand to gravelly sand	SP	A-1, A-3	0	0-40	40-100	35-100	10-70	0-10	0-14	NP
Trenary---------	0-2	Silt loam, sandy loam, fine sandy loam, very fine sandy loam	SM, ML	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-90	0-20	NP-4
	2-6	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	6-12	Fine sandy loam, sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	12-17	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-65	0-22	NP-5
	17-26	Sandy loam, loamy sand	SM	A-4	0-4	0-8	90-100	85-95	40-70	10-40	0-20	NP-3
	26-37	Sandy clay loam, fine sandy loam	SC, SM	A-6, A-4	0-4	0-8	90-100	85-95	55-90	30-50	25-37	3-17
	37-80	Sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM	A-4	0-4	0-20	70-95	65-90	40-80	20-50	15-24	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
303E:												
Kiva----------	0-3	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-30	NP-3
	3-6	Fine sandy loam, loamy sand	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	10-50	0-23	NP-1
	6-15	Gravelly sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0-8	65-100	60-100	35-85	15-50	0-26	NP-4
	15-23	Gravelly loamy sand, sand	SP	A-3, A-2-4	0	0-15	50-100	45-100	25-70	0-30	0-21	NP-1
	23-80	Stratified sand to very gravelly sand to gravelly sand	SP	A-1, A-3	0	0-40	40-100	35-100	10-70	0-10	0-14	NP
Trenary---------	0-2	Silt loam, sandy loam, fine sandy loam, very fine sandy loam	SM, ML	A-4, A-2-4	0	0-5	90-100	85-100	50-100	25-90	0-20	NP-4
	2-6	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	6-12	Fine sandy loam, sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-85	0-18	NP-2
	12-17	Fine sandy loam, very fine sandy loam	ML, SM	A-4	0-4	0-8	90-100	85-95	55-90	30-65	0-22	NP-5
	17-26	Sandy loam, loamy sand	SM	A-4	0-4	0-8	90-100	85-95	40-70	10-40	0-20	NP-3
	26-37	Sandy clay loam, fine sandy loam	SC, SM	A-6, A-4	0-4	0-8	90-100	85-95	55-90	30-50	25-37	3-17
	37-80	Sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM	A-4	0-4	0-20	70-95	65-90	40-80	20-50	15-24	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
305B:												
Wurtsmith-------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-4	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	85-100	80-100	35-75	0-30	0-22	NP-2
	4-24	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	85-100	80-100	35-70	0-10	0-14	NP
	24-80	Coarse sand, sand	SP, SP-SM	A-1, A-3	0	0	85-100	80-100	35-70	0-10	0-14	NP
Meehan----------	0-3	Moderately decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	3-5	Loamy sand, sand	SM, SP	A-2-4, A-3	0	0	85-100	80-100	35-75	0-30	0-22	NP-2
	5-28	Sand, coarse sand	SP-SM, SP	A-3, A-1	0	0	85-100	80-100	35-70	0-10	0-14	NP
	28-80	Coarse sand, sand	SP, SP-SM	A-1, A-3	0	0	85-100	80-100	35-70	0-10	0-14	NP
306C:												
Deerton, dissected------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
306C:												
Tokiahok, dissected------	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	2-11	Loamy fine sand	SM	A-2-4	0-4	0-5	85-100	80-95	75-90	30-50	0-26	NP-6
	11-15	Sand, loamy fine sand	SM, SP-SM	A-3, A-2-4	0-3	0-5	85-100	80-95	35-90	5-50	0-33	NP-6
	15-24	Sand, loamy fine sand	SC-SM, SP-SM	A-2-4, A-3	0-3	0-5	85-100	80-95	35-90	5-50	0-29	NP-6
	24-59	Sandy loam, loamy sand	SM	A-4, A-2-4	0-3	0-5	85-100	80-95	45-75	10-40	0-27	NP-10
	59-80	Sandy loam	SC-SM	A-2-4, A-4	0-3	0-5	85-100	80-95	45-70	20-40	18-27	4-10
Jeske, dissected	0-3	Highly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	3-21	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-80	0-10	0-0	NP
	21-31	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	31-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
307B:												
Rubicon, very deep water table----------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
307D:												
Rubicon, very deep water table----------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
308B:												
Rubicon---------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
Sultz----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	89-95	8-35	0-29	NP
	2-6	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	89-95	8-35	0-24	NP
	6-18	Fine sand	SM, SP-SM	A-2-4	0	0	100	100	75-95	10-35	0-0	NP
	18-51	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
	51-80	Silt loam, loamy very fine sand, sand	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
308D:												
Rubicon---------	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
308D:												
Sultz----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	89-95	8-35	0-29	NP
	2-6	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	89-95	8-35	0-24	NP
	6-18	Fine sand	SM, SP-SM	A-2-4	0	0	100	100	75-95	10-35	0-0	NP
	18-51	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0-5	100	95-100	50-95	5-35	0-0	NP
	51-80	Silt loam, loamy very fine sand, sand	ML, SM	A-4, A-2-4	0	0	100	95-100	40-95	10-80	0-27	NP-10
309B:												
Rubicon, deep water table----	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
309D:												
Rubicon, deep water table----	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	100	90-100	0-0	NP
	2-5	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	5-30	Sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	30-38	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
	38-80	Sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0	95-100	85-100	40-70	0-15	0-0	NP
310B:												
Kalkaska, burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
310D:												
Kalkaska, burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
310E:												
Kalkaska, burned	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
311B:												
Kalkaska, very deep water table, burned--	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
311D:												
Kalkaska, very deep water table, burned--	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
312B:												
Islandlake, burned---------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
312D:												
Islandlake, burned---------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
313B:												
Kalkaska, deep water table, burned---------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-3, A-2-4	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-3, A-2-4	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
314B:												
Blue Lake, very deep water table, burned--	0-5	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	5-7	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	7-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
315B:												
Blue Lake, deep water table, burned---------	0-5	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	5-7	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	7-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
316B:												
Blue Lake, burned---------	0-5	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	5-7	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	7-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
316D:												
Blue Lake, burned---------	0-5	Loamy sand	SM	A-2-4	0	0-8	90-100	85-100	40-75	10-30	0-18	NP-1
	5-7	Sand, loamy sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	7-27	Loamy sand, sand	SM, SP-SM	A-1, A-3	0	0-8	90-100	85-100	40-75	0-30	0-18	NP-1
	27-80	Sand, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0-8	90-100	85-100	40-95	5-50	0-23	NP-6
317B:												
Kalkaska, very deep water table----------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
317D:												
Kalkaska, very deep water table----------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
318B:												
Islandlake, very deep water table----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
318D:												
Islandlake, very deep water table----------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
319B:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
319D:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
319E:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
319F:												
Islandlake------	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-2	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	2-8	Sand, loamy sand	SM, SP-SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	8-9	Sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
	9-41	Sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-70	5-15	0-15	NP
	41-80	Fine sand, loamy fine sand, sand, loamy sand	SP-SM, SM	A-2-4	0	0	96-100	90-100	45-75	5-30	0-19	NP-4
320B:												
Kalkaska, deep water table----	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
321B:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
Deerton---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
321D:												
Kalkaska--------	0-2	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	2-6	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	6-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	8-16	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	16-26	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
	26-80	Sand	SP-SM, SM	A-2-4, A-3	0	0-3	95-100	85-100	40-70	5-15	0-0	NP
Deerton---------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	0-0	NP
	1-9	Sand	SP-SM, SP	A-3	0	0-5	85-100	80-100	40-70	0-10	0-22	NP-2
	9-10	Loamy sand, channery sand, sand	SP, SM, SP-SM	A-2-4, A-3	0-8	0-15	70-100	65-100	35-75	0-30	0-33	NP-6
	10-25	Channery sand, loamy sand, sand	SP-SM, SM, SP	A-3, A-2-4	0-8	0-15	70-100	65-100	35-70	0-30	0-29	NP-6
	25-39	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	39-80	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 17.--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)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
10. Beaches											
11C:											
Deer Park-------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-3	0-5	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	3-10	0-10	1.20-1.50	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	10-21	0-10	1.30-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	21-80	0-10	1.50-1.60	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
11E:											
Deer Park-------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-3	0-5	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	3-10	0-10	1.20-1.50	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	10-21	0-10	1.30-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	21-80	0-10	1.50-1.60	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
11F:											
Deer Park-------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-3	0-5	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	3-10	0-10	1.20-1.50	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	10-21	0-10	1.30-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	21-80	0-10	1.50-1.60	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
12B:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
12D:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
12E:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
13B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
13D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
13E:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
15A:											
Croswell--------	0-2	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-15	0-10	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	15-22	0-10	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
	22-80	0-10	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
16A:											
Paquin----------	0-2	---	---	6.00-20.00	---	---	---	---	2	1	220
	2-12	0-5	1.35-1.45	6.00-20.00	0.06-0.10	0.0-2.9	.15	.15			
	12-14	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	14-17	0-5	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	17-27	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	27-34	0-1	1.45-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	34-80	0-1	1.50-1.70	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
17A:											
Au Gres---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-7	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	7-17	0-10	1.40-1.65	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	17-28	0-10	1.40-1.65	6.00-20.00	0.06-0.07	0.0-2.9	.15	.15			
	28-80	0-10	1.50-1.65	6.00-20.00	0.05-0.06	0.0-2.9	.15	.15			
18:											
Kinross---------	0-3	---	0.10-0.35	6.00-20.00	0.35-0.45	---	---	---	3	2	134
	3-14	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	14-22	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	22-35	0-3	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	35-80	0-1	1.40-1.70	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			
19:											
Deford----------	0-4	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---	5	2	134
	4-80	0-10	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
21A:											
Ingalls---------	0-4	---	---	6.00-20.00	0.35-0.45	---	---	---	5	2	134
	4-5	0-8	1.20-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	5-14	0-10	1.20-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	14-16	0-10	1.35-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	16-35	0-10	1.35-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	35-80	0-15	1.65-1.80	0.20-0.60	0.14-0.22	0.0-2.9	.43	.43			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
24B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
25B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Yalmer----------	0-1	---	---	6.00-20.00	---	---	---	---	4	2	134
	1-3	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	3-8	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	8-11	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	11-24	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	24-40	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	40-66	8-18	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
	66-80	8-14	1.60-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
25D:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Yalmer----------	0-1	---	---	6.00-20.00	---	---	---	---	4	2	134
	1-3	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	3-8	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	8-11	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	11-24	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	24-40	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	40-66	8-18	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
	66-80	8-14	1.60-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
31D:											
Trenary---------	0-2	1-10	1.30-1.60	0.60-2.00	0.11-0.24	0.0-2.9	.28	.28	5	5	56
	2-6	2-8	1.30-1.60	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	6-12	2-8	1.35-1.65	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	12-17	4-12	1.35-1.70	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	17-26	4-10	1.35-1.70	0.60-2.00	0.10-0.14	0.0-3.0	.20	.24			
	26-37	15-27	1.35-1.70	0.60-2.00	0.15-0.17	0.0-3.0	.28	.32			
	37-80	5-14	1.70-1.85	0.60-2.00	0.10-0.15	0.0-3.0	.20	.28			
33:											
Ensley----------	0-5	---	---	0.60-2.00	---	---	---	---	4	2	134
	5-7	7-20	1.10-1.35	0.60-2.00	0.19-0.21	0.0-2.9	.32	.37			
	7-19	7-20	1.50-1.85	0.60-2.00	0.10-0.19	0.0-2.9	.20	.28			
	19-80	5-15	1.70-1.80	0.60-2.00	0.10-0.19	0.0-2.9	.15	.28			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
35B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-3	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.20	.24			
	3-6	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.20	.24			
	6-23	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.20	.24			
	23-38	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	38-50	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	50-63	8-15	1.60-1.80	0.60-2.00	0.11-0.14	0.0-2.9	.15	.24			
	63-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-2.9	.15	.24			
Yalmer----------	0-1	---	---	6.00-20.00	---	---	---	---	4	2	134
	1-2	0-8	1.35-1.65	6.00-20.00	0.08-0.12	0.0-2.9	.17	.17			
	2-5	0-8	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-16	0-8	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	16-28	0-8	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.10	.17			
	28-36	2-10	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	36-62	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	62-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-2.9	.15	.24			
Frohling--------	0-2	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	3	86
	2-5	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	5-24	2-8	1.35-1.70	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	24-73	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	73-80	8-12	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
37B:											
Grand Sable-----	0-1	---	---	2.00-6.00	---	---	---	---	4	4	134
	1-4	0-5	1.35-1.60	2.00-6.00	0.11-0.21	0.0-2.9	.17	.17			
	4-30	0-3	1.55-1.75	2.00-6.00	0.09-0.11	0.0-2.9	.17	.17			
	30-32	0-2	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	32-43	0-2	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.10	.15			
	43-55	0-2	1.55-1.65	6.00-20.00	0.03-0.07	0.0-2.9	.15	.15			
	55-80	0-2	1.55-1.65	6.00-20.00	0.03-0.07	0.0-2.9	.15	.15			
37E:											
Grand Sable-----	0-1	---	---	2.00-6.00	---	---	---	---	4	4	134
	1-4	0-5	1.35-1.60	2.00-6.00	0.11-0.21	0.0-2.9	.17	.17			
	4-30	0-3	1.55-1.75	2.00-6.00	0.09-0.11	0.0-2.9	.17	.17			
	30-32	0-2	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	32-43	0-2	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.10	.15			
	43-55	0-2	1.55-1.65	6.00-20.00	0.03-0.07	0.0-2.9	.15	.15			
	55-80	0-2	1.55-1.65	6.00-20.00	0.03-0.07	0.0-2.9	.15	.15			
38B:											
Rhody----------	0-19	0-6	1.10-1.60	0.60-2.00	0.20-0.24	---	.28	.28	4	5	56
	19-36	0-2	1.50-1.70	6.00-20.00	0.02-0.04	---	.28	.28			
	36-41	---	---	0.20-0.60	---	---	---	---			
	41-80	---	---	0.00-0.20	---	---	---	---			
Towes----------	0-19	0-6	1.35-1.50	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	4	5	56
	19-22	0-2	1.40-1.60	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	22-26	0-2	1.50-1.65	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	26-37	---	---	0.20-0.60	---	---	---	---			
	37-80	---	---	0.00-0.20	---	---	---	---			
40B:											
Waiska----------	0-1	---	---	20.00-60.00	---	---	---	---	5	3	86
	1-4	0-6	1.40-1.70	20.00-60.00	0.03-0.11	0.0-2.9	.15	.15			
	4-8	0-6	1.40-1.65	20.00-60.00	0.03-0.08	0.0-2.9	.05	.10			
	8-18	0-5	1.40-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.05	.10			
	18-80	0-5	1.50-1.60	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
42:											
Davies----------	0-4	---	---	2.00-6.00	0.35-0.45	---	---	---	5	4	86
	4-11	0-6	1.50-1.75	2.00-6.00	0.06-0.09	0.0-2.9	.05	.24			
	11-80	0-4	1.50-1.70	20.00-60.00	0.02-0.04	0.0-2.9	.10	.02			
46:											
Jacobsville-----	0-5	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	3	86
	5-9	5-12	1.10-1.35	0.60-2.00	0.08-0.18	0.0-2.9	.20	.24			
	9-23	7-15	1.50-1.85	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	23-36	6-15	1.70-1.80	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	36-80	---	---	0.00-0.20	---	---	---	---			
47C:											
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	2	134
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
Au Train--------	0-2	---	---	6.00-20.00	---	---	---	---	2	1	180
	2-9	0-4	0.90-1.50	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-14	0-4	1.45-1.70	2.00-6.00	0.07-0.09	0.0-3.0	.15	.15			
	14-32	---	---	0.20-0.60	---	---	---	---			
	32-80	---	---	0.00-0.20	---	---	---	---			
47E:											
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	2	134
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
Au Train--------	0-2	---	---	6.00-20.00	---	---	---	---	2	1	180
	2-9	0-4	0.90-1.50	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-14	0-4	1.45-1.70	2.00-6.00	0.07-0.09	0.0-3.0	.15	.15			
	14-32	---	---	0.20-0.60	---	---	---	---			
	32-80	---	---	0.00-0.20	---	---	---	---			
48:											
Burt----------	0-1	---	---	6.00-20.00	---	---	---	---	2	8	0
	1-5	0-8	0.90-1.50	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	5-19	0-10	1.50-1.70	6.00-20.00	0.04-0.10	0.0-3.0	.15	.15			
	19-80	---	---	0.00-0.20	---	---	---	---			
49B:											
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	5	56
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
51:											
Nahma----------	0-11	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	4	2	134
	11-14	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	14-17	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	17-19	5-20	1.48-1.80	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	19-24	5-20	1.46-1.80	0.60-2.00	0.09-0.16	0.0-2.9	.24	.28			
	24-80	---	---	0.00-0.60	---	---	---	---			
Ruse----------	0-7	0-20	1.10-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.28	.28	2	5	56
	7-11	0-20	1.50-1.80	0.60-6.00	0.11-0.15	0.0-2.9	.24	.24			
	11-15	0-20	1.50-1.80	0.60-6.00	0.10-0.14	0.0-2.9	.24	.24			
	15-80	---	---	0.00-0.60	---	---	---	---			
52B:											
Summerville-----	0-3	2-12	1.30-1.60	0.60-2.00	0.14-0.22	0.0-2.9	.32	.32	4	3	86
	3-13	2-10	1.35-1.70	0.60-2.00	0.10-0.19	0.0-2.9	.43	.43			
	13-80	---	---	0.00-0.60	---	---	---	---			
57:											
Carbondale------	0-38	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	5	8	0
	38-80	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---			
Lupton----------	0-4	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	8	0
	4-80	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---			
Tawas----------	0-26	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	26-80	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
58:											
Dawson----------	0-10	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	8	0
	10-38	---	0.13-0.23	0.20-6.00	0.35-0.45	---	---	---			
	38-80	0-10	1.50-1.70	6.00-20.00	0.03-0.10	0.0-2.9	.15	.15			
Greenwood-------	0-65	---	0.10-0.17	0.60-6.00	0.45-0.55	---	---	---	5	8	0
	65-80	---	0.13-0.23	0.60-6.00	0.35-0.45	---	---	---			
Loxley----------	0-8	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	8	0
	8-80	---	0.13-0.23	0.20-6.00	0.35-0.45	---	---	---			
59:											
Chippeny--------	0-20	---	0.20-0.45	0.20-6.00	0.35-0.45	---	---	---	4	2	134
	20-28	5-40	1.50-1.80	0.20-2.00	0.07-0.22	0.0-6.0	.43	.43			
	28-80	---	---	0.00-0.60	---	---	---	---			
Nahma----------	0-11	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	4	2	134
	11-14	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	14-17	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	17-19	5-20	1.48-1.80	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	19-24	5-20	1.46-1.80	0.60-2.00	0.09-0.16	0.0-2.9	.24	.28			
	24-80	---	---	0.00-0.60	---	---	---	---			
60:											
Histosols-------	0-91	---	---	0.20-6.00	---	---	---	---	5	8	0
Aquents---------	0-80	---	---	0.20-2.00	---	---	---	---	3	---	---
61:											
Pits----------	---	---	---	---	---	---	---	---	5	---	---
62F:											
Udipsamments----	0-80	0-10	1.35-1.65	6.00-20.00	0.05-0.09	0.0-2.9	.15	.15	5	1	250
Udorthents------	0-80	---	---	0.20-6.00	---	---	---	---	5	---	---

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
64B:											
Kiva----------	0-3	2-6	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.24	.24	3	3	86
	3-6	0-6	1.35-1.65	2.00-6.00	0.09-0.12	0.0-2.9	.15	.17			
	6-15	2-7	1.35-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.24	.24			
	15-23	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.10	.17			
	23-80	0-2	1.55-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.05	.10			
64D:											
Kiva----------	0-3	2-6	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.24	.24	3	3	86
	3-6	0-6	1.35-1.65	2.00-6.00	0.09-0.12	0.0-2.9	.15	.17			
	6-15	2-7	1.35-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.24	.24			
	15-23	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.10	.17			
	23-80	0-2	1.55-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.05	.10			
65D:											
Jeske----------	0-3	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	1	220
	3-21	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	21-31	---	---	0.20-0.60	0.01-0.02	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
Gongeau---------	0-5	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	2	134
	5-7	2-8	1.35-1.50	6.00-20.00	0.10-0.12	---	.17	.17			
	7-18	0-5	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-29	---	---	0.20-0.60	0.01-0.02	---	---	---			
	29-80	---	---	0.00-0.20	---	---	---	---			
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	2	134
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
65F:											
Jeske----------	0-3	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	1	220
	3-21	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	21-31	---	---	0.20-0.60	0.01-0.02	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
Gongeau---------	0-5	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	2	134
	5-7	2-8	1.35-1.50	6.00-20.00	0.10-0.12	---	.17	.17			
	7-18	0-5	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-29	---	---	0.20-0.60	0.01-0.02	---	---	---			
	29-80	---	---	0.00-0.20	---	---	---	---			
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	5	1	220
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
66D:											
Ruse----------	0-10	2-8	1.10-1.60	0.60-2.00	0.21-0.24	0.0-1.0	.28	.28	2	5	56
	10-13	2-8	1.10-1.60	0.60-2.00	0.21-0.24	0.0-1.0	.43	.43			
	13-19	---	---	0.20-0.60	---	---	---	---			
	19-80	---	---	0.00-0.20	---	---	---	---			
Ensign----------	0-10	4-10	1.20-1.50	0.60-2.00	0.15-0.22	0.0-2.9	.37	.37	2	3	86
	10-14	4-10	1.35-1.60	0.60-2.00	0.15-0.19	0.0-2.9	.37	.37			
	14-18	---	---	0.20-0.60	---	---	---	---			
	18-80	---	---	0.00-0.20	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
66D:											
Nykanen---------	0-4	4-8	1.35-1.60	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37	2	3	86
	4-14	4-8	1.35-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.28	.37			
	14-25	---	---	0.20-0.60	---	---	---	---			
	25-80	---	---	0.00-0.20	---	---	---	---			
66F:											
Ruse----------	0-10	2-8	1.10-1.60	0.60-2.00	0.21-0.24	0.0-1.0	.28	.28	2	5	56
	10-13	2-8	1.10-1.60	0.60-2.00	0.21-0.24	0.0-1.0	.43	.43			
	13-19	---	---	0.20-0.60	---	---	---	---			
	19-80	---	---	0.00-0.20	---	---	---	---			
Ensign----------	0-10	4-10	1.20-1.50	0.60-2.00	0.15-0.22	0.0-2.9	.37	.37	2	3	86
	10-14	4-10	1.35-1.60	0.60-2.00	0.15-0.19	0.0-2.9	.37	.37			
	14-18	---	---	0.20-0.60	---	---	---	---			
	18-80	---	---	0.00-0.20	---	---	---	---			
Nykanen---------	0-4	4-8	1.35-1.60	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37	2	3	86
	4-14	4-8	1.35-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.28	.37			
	14-25	---	---	0.20-0.60	---	---	---	---			
	25-80	---	---	0.00-0.20	---	---	---	---			
68:											
Pits, quarry----	0-80	---	---	0.01-20.00	---	---	---	---	-	---	---
69B:											
Escanaba--------	0-1	---	0.10-0.20	2.00-6.00	0.45-0.55	---	---	---	5	2	134
	1-3	0-6	1.30-1.70	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	3-6	0-6	1.30-1.65	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	6-26	0-6	1.30-1.65	2.00-6.00	0.05-0.11	0.0-2.9	.15	.17			
	26-35	6-15	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	35-42	10-18	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.28			
	42-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
71A:											
Evart----------	0-10	2-12	1.35-1.55	6.00-20.00	0.20-0.24	0.0-2.9	.32	.32	3	5	56
	10-18	0-5	1.30-1.65	6.00-20.00	0.08-0.11	0.0-2.9	.17	.17			
	18-80	0-2	1.50-1.65	6.00-20.00	0.02-0.10	0.0-2.9	.15	.15			
Sturgeon--------	0-6	4-10	1.20-1.50	0.60-2.00	0.17-0.22	0.0-2.9	.32	.32	3	5	56
	6-16	4-10	1.35-1.70	0.60-2.00	0.17-0.22	0.0-2.9	.28	.28			
	16-80	0-4	1.50-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
72E:											
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	5	1	220
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
Tokiahok--------	0-2	---	---	6.00-20.00	---	---	---	---	4	2	134
	2-11	0-10	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.15	.17			
	11-15	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	15-24	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	24-59	2-15	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	59-80	8-15	1.60-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
Trout Bay-------	0-19	---	0.20-0.45	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	19-34	---	---	0.20-0.60	---	---	---	---			
	34-80	---	---	0.00-0.20	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
72F:											
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	5	1	220
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
Tokiahok--------	0-2	---	---	6.00-20.00	---	---	---	---	4	2	134
	2-11	0-10	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.15	.17			
	11-15	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	15-24	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	24-59	2-15	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	59-80	8-15	1.60-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
Trout Bay-------	0-19	---	0.20-0.45	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	19-34	---	---	0.20-0.60	---	---	---	---			
	34-80	---	---	0.00-0.20	---	---	---	---			
76C:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
76E:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
76F:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
77B:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
77D:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
77D:											
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
77E:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Voelker---------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-5	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	5-11	0-6	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-15	0-6	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	15-31	0-6	1.40-1.65	0.60-6.00	0.06-0.08	0.0-2.9	.15	.15			
	31-39	0-15	1.35-1.70	0.20-0.60	0.12-0.19	0.0-2.9	.24	.24			
	39-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
88:											
Cathro----------	0-34	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	5	2	134
	34-80	5-20	1.70-1.80	0.60-2.00	0.11-0.13	0.0-3.0	.20	.28			
Ensley----------	0-5	---	---	0.60-2.00	---	---	---	---	4	2	134
	5-7	7-20	1.10-1.35	0.60-2.00	0.19-0.21	0.0-3.0	.32	.37			
	7-19	7-20	1.50-1.85	0.60-2.00	0.10-0.19	0.0-3.0	.20	.28			
	19-80	5-15	1.70-1.80	0.60-2.00	0.10-0.19	0.0-3.0	.15	.28			
93:											
Tawas----------	0-26	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	2	134
	26-80	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
Deford----------	0-4	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---	5	2	134
	4-80	0-10	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
95B:											
Liminga---------	0-1	---	0.10-0.20	6.00-20.00	0.45-0.55	---	---	---	5	1	250
	1-7	0-5	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	7-9	0-5	1.30-1.60	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	9-22	0-5	1.30-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	22-31	0-5	1.30-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	31-80	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
104C:											
Fence----------	0-3	2-10	1.35-1.55	0.60-2.00	0.20-0.22	0.0-2.9	.37	.37	5	3	86
	3-7	5-10	1.35-1.55	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37			
	7-11	5-10	1.40-1.70	0.60-2.00	0.17-0.22	0.0-2.9	.37	.37			
	11-19	0-10	1.40-1.70	0.60-2.00	0.17-0.19	0.0-2.9	.43	.43			
	19-42	10-25	1.35-1.55	0.20-0.60	0.18-0.20	3.0-6.0	.43	.43			
	42-80	2-35	1.45-1.75	0.20-0.60	0.17-0.19	0.0-3.0	.43	.43			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
109D:											
Rousseau--------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-4	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	4-20	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	20-33	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	33-66	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	66-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Dawson----------	0-10	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	8	0
	10-20	---	0.10-0.17	0.60-6.00	0.45-0.55	---	---	---			
	20-38	---	0.13-0.23	0.20-6.00	0.35-0.45	---	---	---			
	38-80	0-10	1.50-1.70	6.00-20.00	0.03-0.10	0.0-2.9	.15	.15			
109F:											
Rousseau--------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-4	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	4-20	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	20-33	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	33-66	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	66-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Dawson----------	0-10	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	8	0
	10-20	---	0.10-0.17	0.60-6.00	0.45-0.55	---	---	---			
	20-38	---	0.13-0.23	0.20-6.00	0.35-0.45	---	---	---			
	38-80	0-10	1.50-1.70	6.00-20.00	0.03-0.10	0.0-2.9	.15	.15			
125B:											
Stutts----------	0-1	---	0.10-0.20	2.00-6.00	---	---	---	---	5	2	134
	1-2	0-8	1.30-1.60	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	2-7	2-8	1.30-1.65	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	7-9	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	9-13	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	13-19	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	19-80	0-5	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Kalkaska--------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-6	3-8	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	6-8	3-8	1.30-1.60	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	8-12	1-8	1.30-1.70	6.00-20.00	0.06-0.11	0.0-2.9	.17	.17			
	12-23	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	23-38	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	38-80	0-5	1.55-1.75	6.00-20.00	0.02-0.06	0.0-2.9	.15	.15			
125D:											
Stutts----------	0-1	---	0.10-0.20	2.00-6.00	---	---	---	---	5	2	134
	1-2	0-8	1.30-1.60	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	2-7	2-8	1.30-1.65	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	7-9	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	9-13	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	13-19	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	19-80	0-5	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Kalkaska--------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-6	3-8	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	6-8	3-8	1.30-1.60	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	8-12	1-8	1.30-1.70	6.00-20.00	0.06-0.11	0.0-2.9	.17	.17			
	12-23	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	23-38	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	38-80	0-5	1.55-1.75	6.00-20.00	0.02-0.06	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
125E:											
Stutts----------	0-1	---	0.10-0.20	2.00-6.00	---	---	---	---	5	2	134
	0.2-2	0-8	1.30-1.60	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	2-7	2-8	1.30-1.65	2.00-6.00	0.12-0.18	0.0-2.9	.24	.24			
	7-9	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	9-13	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	13-19	4-10	1.35-1.70	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	19-80	0-5	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Kalkaska--------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-6	3-8	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	6-8	3-8	1.30-1.60	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17			
	8-12	1-8	1.30-1.70	6.00-20.00	0.06-0.11	0.0-2.9	.17	.17			
	12-23	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	23-38	0-5	1.30-1.70	6.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
	38-80	0-5	1.55-1.75	6.00-20.00	0.02-0.06	0.0-2.9	.15	.15			
135B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-3	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	3-6	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	6-23	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	23-38	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.15	.17			
	38-50	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.20	.24			
	50-63	8-15	1.60-1.80	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
	63-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
Ensley----------	0-5	---	---	0.60-2.00	---	---	---	---	4	2	134
	5-7	7-20	1.10-1.35	0.60-2.00	0.19-0.21	0.0-3.0	.32	.37			
	7-19	7-20	1.50-1.85	0.60-2.00	0.10-0.19	0.0-3.0	.20	.28			
	19-80	5-15	1.70-1.80	0.60-2.00	0.10-0.19	0.0-3.0	.15	.28			
145C:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	4	86
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Yalmer----------	0-1	---	---	6.00-20.00	---	---	---	---	4	4	86
	1-3	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	3-8	0-6	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	8-11	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	11-24	0-6	1.40-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	24-40	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	40-66	8-18	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
	66-80	8-14	1.60-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.17	.24			
146B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
146B:											
Skanee----------	0-2	---	---	0.60-2.00	---	---	---	---	4	2	134
	2-8	2-10	1.20-1.50	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	8-14	2-10	1.35-1.60	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	14-31	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	31-42	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.32	.37			
	42-80	6-12	1.55-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
147A:											
Skanee----------	0-2	---	---	0.60-2.00	---	---	---	---	4	4	86
	2-8	2-10	1.20-1.50	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	8-14	2-10	1.35-1.60	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	14-31	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	31-42	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.32	.37			
	42-80	6-12	1.55-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Gay----------	0-4	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	5	5	56
	4-7	2-10	1.10-1.50	0.60-2.00	0.07-0.18	0.0-2.9	.24	.24			
	7-11	2-10	1.10-1.60	0.60-2.00	0.07-0.15	0.0-2.9	.24	.24			
	11-16	6-35	1.50-1.85	0.60-2.00	0.10-0.18	0.0-2.9	.20	.24			
	16-80	6-12	1.70-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
148B:											
Shoepac---------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	56
	2-6	0-6	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	6-12	2-8	1.25-1.35	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	12-23	1-5	1.30-1.60	0.60-2.00	0.08-0.11	0.0-3.0	.15	.17			
	23-33	4-14	1.55-1.85	0.60-2.00	0.08-0.15	0.0-3.0	.15	.17			
	33-53	10-27	1.35-1.80	0.60-2.00	0.13-0.17	0.0-3.0	.17	.24			
	53-80	5-12	1.60-1.80	0.20-0.60	0.10-0.14	0.0-3.0	.15	.24			
Ensley----------	0-5	---	---	0.60-2.00	---	---	---	---	4	2	134
	5-7	7-20	1.10-1.35	0.60-2.00	0.19-0.21	0.0-3.0	.32	.37			
	7-19	7-20	1.50-1.85	0.60-2.00	0.10-0.19	0.0-3.0	.20	.28			
	19-80	5-15	1.70-1.80	0.60-2.00	0.10-0.19	0.0-3.0	.15	.28			
155A:											
Zeba----------	0-2	5-15	1.30-1.60	0.60-2.00	0.13-0.15	0.0-2.9	.15	.24	4	5	56
	2-5	2-10	1.30-1.60	0.60-2.00	0.13-0.18	0.0-2.9	.15	.24			
	5-13	5-12	1.35-1.70	0.60-2.00	0.11-0.16	0.0-2.9	.15	.24			
	13-33	5-15	1.35-1.70	0.60-2.00	0.09-0.14	0.0-2.9	.20	.24			
	33-80	---	---	0.00-0.20	---	---	---	---			
Jacobsville-----	0-5	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	3	86
	5-9	5-12	1.10-1.35	0.60-2.00	0.08-0.18	0.0-2.9	.20	.24			
	9-23	7-15	1.50-1.85	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	23-36	6-15	1.70-1.80	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	36-80	---	---	0.00-0.20	---	---	---	---			
157B:											
Reade----------	0-4	---	---	0.60-2.00	---	---	---	---	4	5	56
	4-7	0-12	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	7-9	4-15	1.40-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.24	.32			
	9-15	0-12	1.35-1.70	0.60-2.00	0.15-0.22	0.0-2.9	.17	.24			
	15-20	4-16	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.15	.24			
	20-28	5-15	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
	28-80	---	---	0.00-0.20	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
157B:											
Nahma----------	0-11	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	4	2	134
	11-14	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	14-17	5-20	1.10-1.60	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	17-19	5-20	1.48-1.80	0.60-2.00	0.14-0.24	0.0-2.9	.43	.43			
	19-24	5-20	1.46-1.80	0.60-2.00	0.09-0.16	0.0-2.9	.24	.28			
	24-80	---	---	0.00-0.60	---	---	---	---			
158C:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Abbaye----------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-4	2-10	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.20	.24			
	4-13	2-8	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.15	.17			
	13-25	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	25-32	8-15	1.30-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.20	.24			
	32-80	---	---	0.00-0.20	---	---	---	---			
160B:											
Paquin----------	0-2	---	---	6.00-20.00	---	---	---	---	2	1	220
	2-12	0-5	1.35-1.45	6.00-20.00	0.06-0.10	0.0-2.9	.15	.15			
	12-14	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	14-17	0-5	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	17-27	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	27-34	0-1	1.45-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	34-80	0-1	1.50-1.70	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
Finch----------	0-1	---	---	6.00-20.00	---	---	---	---	2	1	220
	1-11	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-42	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	42-80	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
161B:											
Yellowdog-------	0-2	---	---	20.00-60.00	---	---	---	---	4	1	160
	2-32	0-2	1.30-1.60	20.00-60.00	0.00-0.02	0.0-2.9	.02	.10			
	32-80	---	---	0.00-0.20	---	---	---	---			
Buckroe---------	0-2	---	---	6.00-20.00	---	---	---	---	2	2	134
	2-4	2-7	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	4-15	0-5	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	15-80	---	---	0.00-0.20	---	---	---	---			
165B:											
Chocolay--------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-3	5-10	1.30-1.60	0.60-2.00	0.06-0.12	0.0-2.9	.10	.24			
	3-8	2-10	1.30-1.60	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	8-14	4-10	1.35-1.70	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	14-27	4-10	1.35-1.80	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	27-80	---	---	0.00-0.20	---	---	---	---			
Waiska----------	0-1	---	---	20.00-60.00	---	---	---	---	5	3	86
	1-4	0-6	1.40-1.70	20.00-60.00	0.03-0.11	0.0-2.9	.15	.15			
	4-8	0-6	1.40-1.65	20.00-60.00	0.03-0.08	0.0-2.9	.05	.10			
	8-18	0-5	1.40-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.05	.10			
	18-80	0-5	1.50-1.60	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
166:											
Skandia---------	0-4	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	4	5	56
	4-26	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---			
	26-31	---	---	0.20-0.60	---	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
167:											
Skandia---------	0-4	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	4	6	48
	4-26	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---			
	26-31	---	---	0.20-0.60	---	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
Jacobsville-----	0-5	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	2	134
	5-9	5-12	1.10-1.35	0.60-2.00	0.08-0.18	0.0-2.9	.20	.24			
	9-23	7-15	1.50-1.85	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	23-36	6-15	1.70-1.80	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	36-80	---	---	0.00-0.20	---	---	---	---			
170B:											
Chocolay--------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-3	5-10	1.30-1.60	0.60-2.00	0.06-0.12	0.0-2.9	.10	.24			
	3-8	2-10	1.30-1.60	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	8-14	4-10	1.35-1.70	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	14-27	4-10	1.35-1.80	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	27-80	---	---	0.00-0.20	---	---	---	---			
171B:											
Paavola---------	0-2	---	---	2.00-6.00	---	---	---	---	4	6	48
	2-6	0-5	1.30-1.60	6.00-20.00	0.09-0.12	0.0-3.0	.10	.17			
	6-15	0-4	1.40-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			
	15-31	0-4	1.40-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			
	31-59	8-15	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.10	.24			
	59-80	5-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-3.0	.15	.24			
172D:											
Buckroe---------	0-2	---	---	6.00-20.00	---	---	---	---	2	3	86
	2-4	2-7	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	4-15	0-5	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	15-80	---	---	0.00-0.20	---	---	---	---			
Rock outcrop.											
172F:											
Buckroe---------	0-2	---	---	6.00-20.00	---	---	---	---	2	3	86
	2-4	2-7	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	4-15	0-5	1.40-1.65	20.00-60.00	0.02-0.04	0.0-2.9	.02	.10			
	15-80	---	---	0.00-0.20	---	---	---	---			
Rock outcrop.											
176B:											
Croswell--------	0-2	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-15	0-10	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	15-22	0-10	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
	22-80	0-10	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Kinross---------	0-3	---	0.10-0.35	6.00-20.00	0.35-0.45	---	---	---	3	2	134
	3-14	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	14-22	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	22-35	0-3	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	35-80	0-1	1.40-1.70	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
181E:											
Frohling--------	0-1	---	---	0.60-2.00	0.45-0.55	---	---	---	3	5	56
	1-2	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.17	.24			
	2-7	5-10	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.17	.24			
	7-9	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.17	.24			
	9-16	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.17	.24			
	16-34	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	34-80	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
Tokiahok--------	0-2	---	---	6.00-20.00	---	---	---	---	4	3	86
	2-11	0-10	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.15	.17			
	11-15	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	15-24	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	24-59	2-15	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	59-80	8-15	1.60-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
185B:											
McMaster--------	0-2	---	0.20-0.30	2.00-6.00	0.35-0.45	---	---	---	3	3	56
	2-4	3-10	1.30-1.60	2.00-6.00	0.09-0.13	0.0-3.0	.10	.24			
	4-8	0-5	1.30-1.65	2.00-6.00	0.07-0.11	0.0-3.0	.10	.17			
	8-11	4-12	1.35-1.70	2.00-6.00	0.08-0.12	0.0-3.0	.10	.24			
	11-24	0-5	1.35-1.70	6.00-20.00	0.04-0.07	0.0-3.0	.10	.17			
	24-39	0-5	1.50-1.70	20.00-60.00	0.01-0.02	0.0-3.0	.02	.10			
	39-80	0-5	1.50-1.70	20.00-60.00	0.01-0.02	0.0-3.0	.02	.10			
186B:											
Chatham---------	0-1	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	4	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.13-0.15	0.0-2.9	.15	.24			
	6-20	2-8	1.35-1.70	0.60-2.00	0.12-0.16	0.0-2.9	.15	.24			
	20-39	2-8	1.35-1.70	0.60-2.00	0.10-0.12	0.0-2.9	.10	.24			
	39-80	0-10	1.55-1.80	2.00-6.00	0.03-0.12	0.0-2.9	.02	.24			
186D:											
Chatham---------	0-1	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	4	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.13-0.15	0.0-2.9	.15	.24			
	6-20	2-8	1.35-1.70	0.60-2.00	0.12-0.16	0.0-2.9	.15	.24			
	20-39	2-8	1.35-1.70	0.60-2.00	0.10-0.12	0.0-2.9	.10	.24			
	39-80	0-10	1.55-1.80	2.00-6.00	0.03-0.12	0.0-2.9	.02	.24			
187B:											
Reade-----------	0-4	---	---	0.60-2.00	---	---	---	---	4	5	56
	4-7	0-12	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	7-9	4-15	1.40-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.24	.32			
	9-15	0-12	1.35-1.70	0.60-2.00	0.15-0.22	0.0-2.9	.17	.24			
	15-20	4-16	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.15	.24			
	20-28	5-15	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
	28-80	---	---	0.00-0.20	---	---	---	---			
188B:											
Eben----------	0-6	5-12	1.30-1.60	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24	4	5	56
	6-22	5-12	1.35-1.70	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24			
	22-25	4-10	1.35-1.70	2.00-6.00	0.04-0.07	0.0-3.0	.10	.17			
	25-35	2-8	1.50-1.65	6.00-20.00	0.03-0.05	0.0-3.0	.02	.15			
	35-80	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
188D:											
Eben----------	0-6	5-12	1.30-1.60	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24	4	5	56
	6-22	5-12	1.35-1.70	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24			
	22-25	4-10	1.35-1.70	2.00-6.00	0.04-0.07	0.0-3.0	.10	.17			
	25-35	2-8	1.50-1.65	6.00-20.00	0.03-0.05	0.0-3.0	.02	.15			
	35-80	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
188E:											
Eben----------	0-6	5-12	1.30-1.60	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24	4	5	56
	6-22	5-12	1.35-1.70	2.00-6.00	0.05-0.10	0.0-3.0	.05	.24			
	22-25	4-10	1.35-1.70	2.00-6.00	0.04-0.07	0.0-3.0	.10	.17			
	25-35	2-8	1.50-1.65	6.00-20.00	0.03-0.05	0.0-3.0	.02	.15			
	35-80	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
191B:											
Ruse----------	0-7	0-20	1.10-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.28	.28	2	5	56
	7-11	0-20	1.50-1.80	0.60-6.00	0.11-0.15	0.0-2.9	.24	.24			
	11-15	0-20	1.50-1.80	0.60-6.00	0.10-0.14	0.0-2.9	.24	.24			
	15-80	---	---	0.00-0.60	---	---	---	---			
Ensign----------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	2	3	86
	1-5	4-12	1.30-1.60	0.60-2.00	0.08-0.24	0.0-2.9	.24	.24			
	5-8	4-12	1.35-1.70	0.60-2.00	0.08-0.24	0.0-2.9	.24	.24			
	8-15	4-12	1.35-1.70	0.60-2.00	0.08-0.24	0.0-2.9	.24	.24			
	15-80	---	---	0.00-0.60	---	---	---	---			
197B:											
Shoepac---------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	56
	2-6	0-6	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	6-12	2-8	1.25-1.35	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	12-23	1-5	1.30-1.60	0.60-2.00	0.08-0.11	0.0-3.0	.15	.17			
	23-33	4-14	1.55-1.85	0.60-2.00	0.08-0.15	0.0-3.0	.15	.17			
	33-53	10-27	1.35-1.80	0.60-2.00	0.13-0.17	0.0-3.0	.17	.24			
	53-80	5-12	1.60-1.80	0.20-0.60	0.10-0.14	0.0-3.0	.15	.24			
Trenary---------	0-2	1-10	1.30-1.60	0.60-2.00	0.11-0.24	0.0-2.9	.28	.28	5	3	86
	2-6	2-8	1.30-1.60	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	6-12	2-8	1.35-1.65	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	12-17	4-12	1.35-1.70	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	17-26	4-10	1.35-1.70	0.60-2.00	0.10-0.14	0.0-3.0	.20	.24			
	26-37	15-27	1.35-1.70	0.60-2.00	0.15-0.17	0.0-3.0	.28	.32			
	37-80	5-14	1.70-1.85	0.60-2.00	0.10-0.15	0.0-3.0	.20	.28			
198B:											
Shoepac---------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	56
	2-6	0-6	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	6-12	2-8	1.25-1.35	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	12-23	1-5	1.30-1.60	0.60-2.00	0.08-0.11	0.0-3.0	.15	.17			
	23-33	4-14	1.55-1.85	0.60-2.00	0.08-0.15	0.0-3.0	.15	.17			
	33-53	10-27	1.35-1.80	0.60-2.00	0.13-0.17	0.0-3.0	.17	.24			
	53-80	5-12	1.60-1.80	0.20-0.60	0.10-0.14	0.0-3.0	.15	.24			
Reade----------	0-4	---	---	0.60-2.00	---	---	---	---	4	5	56
	4-7	0-12	1.35-1.60	0.60-2.00	0.15-0.24	0.0-2.9	.32	.37			
	7-9	4-15	1.40-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.24	.32			
	9-15	0-12	1.35-1.70	0.60-2.00	0.15-0.22	0.0-2.9	.17	.24			
	15-20	4-16	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.15	.24			
	20-28	5-15	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
	28-80	---	---	0.00-0.20	---	---	---	---			
200A:											
Charlevoix------	0-2	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	4L	86
	2-5	0-10	1.20-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.28	.37			
	5-7	2-10	1.35-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.37	.43			
	7-12	0-10	1.20-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.37	.43			
	12-16	6-12	1.60-1.80	0.60-2.00	0.15-0.17	0.0-2.9	.17	.24			
	16-27	10-16	1.60-1.80	0.60-2.00	0.15-0.17	0.0-2.9	.17	.24			
	27-80	7-15	1.70-1.85	0.20-0.60	0.14-0.16	0.0-2.9	.15	.28			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
200A:											
Ensley----------	0-5	---	---	0.60-2.00	---	---	---	---	4	2	134
	5-7	7-20	1.10-1.35	0.60-2.00	0.19-0.21	0.0-2.9	.32	.37			
	7-19	7-20	1.50-1.85	0.60-2.00	0.10-0.19	0.0-2.9	.20	.28			
	19-80	5-15	1.70-1.80	0.60-2.00	0.10-0.19	0.0-2.9	.15	.28			
202B:											
Sauxhead--------	0-1	---	---	2.00-6.00	---	---	---	---	2	5	56
	1-4	2-6	1.30-1.60	2.00-6.00	0.11-0.15	0.0-2.9	.20	.24			
	4-14	0-6	1.30-1.70	20.00-60.00	0.02-0.05	0.0-2.9	.05	.17			
	14-17	---	---	0.20-0.60	---	---	---	---			
	17-80	---	---	0.00-0.20	---	---	---	---			
206B:											
Traunik---------	0-1	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	4	3	86
	1-4	4-10	1.30-1.60	0.60-2.00	0.12-0.14	0.0-3.0	.15	.24			
	4-11	4-10	1.35-1.65	0.60-2.00	0.12-0.14	0.0-3.0	.15	.24			
	11-24	0-5	1.40-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
	24-31	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
	31-80	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
206D:											
Traunik---------	0-1	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	4	3	86
	1-4	4-10	1.30-1.60	0.60-2.00	0.12-0.14	0.0-3.0	.15	.24			
	4-11	4-10	1.35-1.65	0.60-2.00	0.12-0.14	0.0-3.0	.15	.24			
	11-24	0-5	1.40-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
	24-31	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
	31-80	0-5	1.55-1.65	20.00-60.00	0.02-0.04	0.0-3.0	.02	.10			
211B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-2	0-10	1.35-1.60	0.60-2.00	0.08-0.18	0.0-2.9	.24	.24			
	2-10	0-10	1.30-1.65	0.60-2.00	0.08-0.18	0.0-2.9	.17	.17			
	10-14	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	14-22	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	22-49	8-14	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.24	.24			
	49-63	10-35	1.35-1.70	0.60-2.00	0.03-0.05	0.0-2.9	.24	.24			
	63-80	6-12	1.70-1.80	0.60-2.00	0.03-0.05	0.0-2.9	.20	.24			
Abbaye----------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-4	2-10	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.20	.24			
	4-13	2-8	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.15	.17			
	13-25	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	25-32	8-15	1.30-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.20	.24			
	32-80	---	---	0.00-0.20	---	---	---	---			
214B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
214D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
214E:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
221B:											
Jeske----------	0-3	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	1	220
	3-21	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	21-31	---	---	0.20-0.60	0.01-0.02	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
Au Train--------	0-2	---	---	6.00-20.00	---	---	---	---	2	1	180
	2-9	0-4	0.90-1.50	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-14	0-4	1.45-1.70	2.00-6.00	0.07-0.09	0.0-3.0	.15	.15			
	14-32	---	---	0.20-0.60	---	---	---	---			
	32-80	---	---	0.00-0.20	---	---	---	---			
Gongeau---------	0-5	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	2	134
	5-7	2-8	1.35-1.50	6.00-20.00	0.10-0.12	---	.17	.17			
	7-18	0-5	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-29	---	---	0.20-0.60	0.01-0.02	---	---	---			
	29-80	---	---	0.00-0.20	---	---	---	---			
225B:											
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-8	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			
225D:											
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-8	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
226B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-10	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			
226D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-10	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			
226E:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-10	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			
226F:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Cusino----------	0-2	---	---	6.00-20.00	---	---	---	---	5	2	134
	2-8	0-10	1.35-1.65	6.00-20.00	0.09-0.12	0.0-2.9	.15	.17			
	8-10	0-10	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.17			
	10-17	0-5	1.30-1.65	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	17-80	0-5	1.55-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.10	.10			
227A:											
Halfaday--------	0-2	---	---	6.00-20.00	0.35-0.45	---	---	---	5	1	220
	2-9	0-5	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	9-10	0-5	1.30-1.70	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-35	0-4	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	35-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
232B:											
Shelldrake------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	220
	1-3	---	---	6.00-20.00	---	---	---	---			
	3-4	0-4	1.30-1.55	6.00-20.00	0.07-0.09	---	.15	.15			
	4-80	0-4	1.55-1.65	6.00-20.00	0.05-0.07	---	.15	.15			
233B:											
Abbaye----------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-4	2-10	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.20	.24			
	4-13	2-8	1.35-1.65	0.60-2.00	0.13-0.18	0.0-2.9	.15	.17			
	13-25	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.24			
	25-32	8-15	1.30-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.20	.24			
	32-80	---	---	0.00-0.20	---	---	---	---			
Zeba----------	0-2	5-15	1.30-1.60	0.60-2.00	0.13-0.15	0.0-2.9	.15	.24	4	5	56
	2-5	2-10	1.30-1.60	0.60-2.00	0.13-0.18	0.0-2.9	.15	.24			
	5-13	5-12	1.35-1.70	0.60-2.00	0.11-0.16	0.0-2.9	.15	.24			
	13-33	5-15	1.35-1.70	0.60-2.00	0.09-0.14	0.0-2.9	.20	.24			
	33-80	---	---	0.00-0.20	---	---	---	---			
234A:											
Levasseur-------	0-1	---	---	20.00-60.00	0.55-0.65	---	---	---	2	8	0
	1-3	---	---	20.00-60.00	0.35-0.45	---	---	---			
	3-8	0-2	1.40-1.65	20.00-60.00	0.00-0.02	---	.02	.10			
	8-13	0-2	1.40-1.65	20.00-60.00	0.00-0.02	---	.02	.10			
	13-80	---	---	0.00-0.20	---	---	---	---			
Burt----------	0-1	---	---	6.00-20.00	---	---	---	---	2	8	0
	1-5	0-8	0.90-1.50	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	5-19	0-10	1.50-1.70	6.00-20.00	0.04-0.10	0.0-3.0	.15	.15			
	19-80	---	---	0.00-0.20	---	---	---	---			
235B:											
Sauxhead--------	0-1	---	---	2.00-6.00	---	---	---	---	2	8	0
	1-4	2-6	1.30-1.60	2.00-6.00	0.11-0.15	0.0-2.9	.20	.24			
	4-14	0-6	1.30-1.70	20.00-60.00	0.02-0.05	0.0-2.9	.05	.17			
	14-17	---	---	0.20-0.60	---	---	---	---			
	17-80	---	---	0.00-0.20	---	---	---	---			
Burt----------	0-1	---	---	6.00-20.00	---	---	---	---	2	8	0
	1-5	0-8	0.90-1.50	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	5-19	0-10	1.50-1.70	6.00-20.00	0.04-0.10	0.0-3.0	.15	.15			
	19-80	---	---	0.00-0.20	---	---	---	---			
236B:											
Waiska----------	0-1	---	---	20.00-60.00	---	---	---	---	5	3	86
	1-4	2-10	1.30-1.60	20.00-60.00	0.10-0.12	0.0-2.9	.15	.24			
	4-8	0-6	1.40-1.65	20.00-60.00	0.03-0.08	0.0-2.9	.05	.10			
	8-18	0-5	1.40-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.05	.10			
	18-80	0-5	1.50-1.60	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			
236D:											
Waiska----------	0-1	---	---	20.00-60.00	---	---	---	---	5	3	86
	1-4	2-10	1.30-1.60	20.00-60.00	0.10-0.12	0.0-2.9	.15	.24			
	4-8	0-6	1.40-1.65	20.00-60.00	0.03-0.08	0.0-2.9	.05	.10			
	8-18	0-5	1.40-1.65	20.00-60.00	0.02-0.07	0.0-2.9	.05	.10			
	18-80	0-5	1.50-1.60	20.00-60.00	0.01-0.03	0.0-2.9	.02	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
237B:											
Chatham---------	0-1	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	4	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.13-0.15	0.0-2.9	.15	.24			
	6-20	2-8	1.35-1.70	0.60-2.00	0.12-0.16	0.0-2.9	.15	.24			
	20-39	2-8	1.35-1.70	0.60-2.00	0.10-0.12	0.0-2.9	.10	.24			
	39-80	0-10	1.55-1.80	2.00-6.00	0.03-0.12	0.0-2.9	.02	.24			
Davies----------	0-4	---	---	2.00-6.00	0.35-0.45	---	---	---	5	4	86
	4-11	0-6	1.50-1.75	2.00-6.00	0.06-0.09	0.0-2.9	.05	.24			
	11-80	0-4	1.50-1.70	20.00-60.00	0.02-0.04	0.0-2.9	.10	.02			
239B:											
Longrie---------	0-4	4-12	1.30-1.60	0.60-2.00	0.12-0.24	0.0-2.9	.24	.24	4	3	86
	4-9	2-8	1.35-1.70	0.60-2.00	0.12-0.24	0.0-2.9	.24	.24			
	9-11	4-12	1.35-1.70	0.60-2.00	0.08-0.24	0.0-2.9	.24	.24			
	11-27	4-12	1.35-1.70	0.60-2.00	0.08-0.24	0.0-2.9	.24	.24			
	27-31	4-18	1.45-1.80	0.60-2.00	0.09-0.19	0.0-2.9	.28	.37			
	31-80	---	---	0.20-2.00	---	---	---	---			
Shingleton------	0-1	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17	4	2	134
	1-7	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17			
	7-8	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	8-11	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	11-80	---	---	0.00-0.06	---	---	---	---			
240F:											
Trout Bay-------	0-19	---	0.20-0.45	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	19-34	---	---	0.20-0.60	---	---	---	---			
	34-80	---	---	0.00-0.20	---	---	---	---			
Gongeau---------	0-5	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	2	134
	5-7	2-8	1.35-1.50	6.00-20.00	0.10-0.12	---	.17	.17			
	7-18	0-5	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-29	---	---	0.20-0.60	0.01-0.02	---	---	---			
	29-80	---	---	0.00-0.20	---	---	---	---			
Shingleton------	0-1	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17	4	2	134
	1-7	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17			
	7-8	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	8-11	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	11-80	---	---	0.00-0.06	---	---	---	---			
Rock outcrop.											
241:											
Cathro----------	0-46	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	5	2	134
	46-80	5-20	1.46-1.80	0.60-2.00	0.10-0.22	0.0-3.0	.24	.24			
Gay----------	0-4	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	5	3	86
	4-7	2-10	1.10-1.50	0.60-2.00	0.07-0.18	0.0-2.9	.24	.24			
	7-11	2-10	1.10-1.60	0.60-2.00	0.07-0.15	0.0-2.9	.24	.24			
	11-16	6-35	1.50-1.85	0.60-2.00	0.10-0.18	0.0-2.9	.20	.24			
	16-80	6-12	1.70-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
242B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
242D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
242F:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
243:											
Markey----------	0-3	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	4	2	134
	3-20	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---			
	20-80	0-5	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
245B:											
Trout Bay-------	0-19	---	0.20-0.45	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	19-34	---	---	0.20-0.60	---	---	---	---			
	34-80	---	---	0.00-0.20	---	---	---	---			
Lupton----------	0-4	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	8	0
	4-80	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---			
Gongeau---------	0-5	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	2	134
	5-7	2-8	1.35-1.50	6.00-20.00	0.10-0.12	---	.17	.17			
	7-18	0-5	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-29	---	---	0.20-0.60	0.01-0.02	---	---	---			
	29-80	---	---	0.00-0.20	---	---	---	---			
246B:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
246D:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
246E:											
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
248B:											
Escanaba--------	0-1	---	0.10-0.20	2.00-6.00	0.45-0.55	---	---	---	5	2	134
	1-3	0-6	1.30-1.70	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	3-6	0-6	1.30-1.65	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	6-26	0-6	1.30-1.65	2.00-6.00	0.05-0.11	0.0-2.9	.15	.17			
	26-35	6-15	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	35-42	10-18	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.28			
	42-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
248D:											
Escanaba--------	0-1	---	0.10-0.20	2.00-6.00	0.45-0.55	---	---	---	5	2	134
	1-3	0-6	1.30-1.70	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	3-6	0-6	1.30-1.65	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	6-26	0-6	1.30-1.65	2.00-6.00	0.05-0.11	0.0-2.9	.15	.17			
	26-35	6-15	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	35-42	10-18	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.28			
	42-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
248E:											
Escanaba--------	0-1	---	0.10-0.20	2.00-6.00	0.45-0.55	---	---	---	5	2	134
	1-3	0-6	1.30-1.70	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	3-6	0-6	1.30-1.65	2.00-6.00	0.06-0.12	0.0-2.9	.15	.17			
	6-26	0-6	1.30-1.65	2.00-6.00	0.05-0.11	0.0-2.9	.15	.17			
	26-35	6-15	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	35-42	10-18	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.24	.28			
	42-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
249B:											
Sauxhead--------	0-1	---	---	2.00-6.00	---	---	---	---	2	5	86
	1-4	2-6	1.30-1.60	2.00-6.00	0.11-0.15	0.0-2.9	.20	.24			
	4-14	0-6	1.30-1.70	20.00-60.00	0.02-0.05	0.0-2.9	.05	.17			
	14-17	---	---	0.20-0.60	---	---	---	---			
	17-80	---	---	0.00-0.20	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
249B:											
Skandia---------	0-4	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	4	5	56
	4-26	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---			
	26-31	---	---	0.20-0.60	---	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			
250B:											
Chocolay--------	0-2	---	---	0.60-2.00	---	---	---	---	4	3	86
	2-3	5-10	1.30-1.60	0.60-2.00	0.06-0.12	0.0-2.9	.10	.24			
	3-8	2-10	1.30-1.60	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	8-14	4-10	1.35-1.70	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	14-27	4-10	1.35-1.80	0.60-2.00	0.05-0.12	0.0-2.9	.05	.24			
	27-80	---	---	0.00-0.20	---	---	---	---			
Jacobsville-----	0-5	---	0.20-0.30	0.20-6.00	0.35-0.45	---	---	---	4	8	0
	5-9	5-12	1.10-1.35	0.60-2.00	0.08-0.18	0.0-2.9	.20	.24			
	9-23	7-15	1.50-1.85	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	23-36	6-15	1.70-1.80	0.60-2.00	0.10-0.17	0.0-2.9	.20	.24			
	36-80	---	---	0.00-0.20	---	---	---	---			
251B:											
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
251D:											
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
252A:											
Finch----------	0-1	---	---	6.00-20.00	---	---	---	---	2	1	220
	1-11	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-42	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	42-80	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Kinross---------	0-3	---	0.10-0.35	6.00-20.00	0.35-0.45	---	---	---	3	2	134
	3-14	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	14-22	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	22-35	0-3	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	35-80	0-1	1.40-1.70	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			
254C:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
254C:											
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
254E:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
254F:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
255D:											
Wallace---------	0-2	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	5	1	220
	2-10	0-5	1.35-1.45	6.00-20.00	0.05-0.09	0.0-2.9	.15	.15			
	10-11	0-5	1.45-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	11-21	0-5	1.75-2.05	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	21-26	0-5	1.75-2.05	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	26-59	0-5	1.45-1.60	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			
	59-80	0-5	1.45-1.60	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			
256B:											
Whitewash-------	0-3	---	0.10-0.20	0.60-6.00	0.45-0.55	---	---	---	5	1	220
	3-7	0-10	1.50-1.70	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	7-9	5-15	1.35-1.70	0.60-6.00	0.14-0.20	0.0-2.9	.24	.24			
	9-80	0-5	1.50-1.70	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
266A:											
Spot----------	0-2	---	0.05-0.15	0.20-6.00	0.55-0.65	---	---	---	2	7	38
	2-8	0-10	1.45-1.70	6.00-20.00	0.06-0.08	---	.15	.15			
	8-10	0-10	1.65-1.80	0.60-6.00	0.02-0.04	---	.15	.15			
	10-18	0-10	1.45-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
	18-80	0-10	1.50-1.70	6.00-20.00	0.05-0.07	---	.15	.15			
Finch----------	0-1	---	---	6.00-20.00	---	---	---	---	2	1	220
	1-11	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-42	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	42-80	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
267A:											
Finch----------	0-1	---	---	6.00-20.00	---	---	---	---	2	1	220
	1-11	0-3	1.20-1.57	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	11-42	0-3	1.65-1.80	0.60-6.00	0.02-0.04	0.0-2.9	.15	.15			
	42-80	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-3.0	.15	.15			
268C:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-3	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	3-6	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	6-23	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	23-38	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.15	.17			
	38-50	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.20	.24			
	50-63	8-15	1.60-1.80	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
	63-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
Frohling--------	0-2	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	3	86
	2-5	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	5-24	2-8	1.35-1.70	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	24-73	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	73-80	8-12	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	5	56
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			
269E:											
Frohling--------	0-2	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	3	86
	2-5	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	5-24	2-8	1.35-1.70	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	24-73	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	73-80	8-12	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
Garlic----------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-9	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-3.0	.15	.15			
	9-11	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	11-20	0-10	1.30-1.60	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	20-29	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
	29-80	0-10	1.55-1.75	6.00-20.00	0.06-0.09	0.0-3.0	.15	.15			
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	3	86
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			
272C:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-3	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	3-6	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	6-23	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	23-38	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.15	.17			
	38-50	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.20	.24			
	50-63	8-15	1.60-1.80	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
	63-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
272C:											
Yalmer----------	0-1	---	---	6.00-20.00	---	---	---	---	4	2	134
	1-2	0-8	1.35-1.65	6.00-20.00	0.08-0.12	0.0-2.9	.17	.17			
	2-5	0-8	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-16	0-8	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.17			
	16-28	0-8	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.10	.17			
	28-36	2-10	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.15	.17			
	36-62	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	62-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-2.9	.15	.24			
Frohling--------	0-2	---	0.20-0.30	0.60-2.00	0.35-0.45	---	---	---	5	3	86
	2-5	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	5-24	2-8	1.35-1.70	0.60-2.00	0.14-0.17	0.0-2.9	.20	.24			
	24-73	4-12	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	73-80	8-12	1.60-1.80	0.60-2.00	0.11-0.15	0.0-2.9	.15	.24			
275B:											
Munising--------	0-1	---	---	0.60-2.00	---	---	---	---	4	2	134
	1-3	5-10	1.30-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	3-6	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	6-23	5-10	1.35-1.60	0.60-2.00	0.14-0.18	0.0-3.0	.20	.24			
	23-38	3-8	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.15	.17			
	38-50	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-3.0	.20	.24			
	50-63	8-15	1.60-1.80	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
	63-80	8-15	1.60-1.85	0.60-2.00	0.11-0.14	0.0-3.0	.15	.24			
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	5	56
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			
281E:											
Mongo----------	0-1	---	---	6.00-20.00	0.55-0.65	---	---	---	5	4	86
	1-6	0-10	1.25-1.60	0.01-0.06	0.22-0.24	0.0-3.0	.37	.37			
	6-22	5-40	1.35-1.55	0.01-0.06	0.18-0.22	0.0-6.0	.43	.43			
	22-38	40-60	1.35-1.55	0.01-0.06	0.11-0.13	3.0-9.0	.32	.32			
	38-80	5-40	1.50-1.75	0.01-0.06	0.20-0.22	0.0-6.0	.43	.43			
282B:											
Furlong---------	0-1	---	---	6.00-20.00	---	---	---	---	4	1	220
	1-2	0-5	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	2-5	0-10	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-7	0-10	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	7-19	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	19-22	0-5	1.55-1.75	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	22-80	---	---	0.06-0.60	---	---	---	---			
Shingleton------	0-1	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17	4	2	134
	1-7	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17			
	7-8	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	8-11	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	11-80	---	---	0.00-0.06	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
282D:											
Furlong---------	0-1	---	---	0.60-6.00	---	---	---	---	4	1	220
	1-2	0-5	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	2-5	0-10	1.35-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-7	0-10	1.35-1.65	2.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	7-19	0-10	1.30-1.70	2.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	19-22	0-5	1.55-1.75	6.00-20.00	0.05-0.11	0.0-2.9	.15	.15			
	22-80	---	---	0.06-0.60	---	---	---	---			
Shingleton------	0-1	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17	4	2	134
	1-7	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.17	.17			
	7-8	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	8-11	0-10	1.30-1.70	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	11-80	---	---	0.00-0.06	---	---	---	---			
284B:											
Steuben---------	0-2	---	---	0.60-2.00	---	---	---	---	3	3	86
	2-8	4-8	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.24	.24			
	8-16	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	16-21	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	21-40	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.17	.24			
	40-45	2-5	1.50-1.65	2.00-6.00	0.05-0.10	0.0-2.9	.15	.15			
	45-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
284D:											
Steuben---------	0-2	---	---	0.60-2.00	---	---	---	---	3	3	86
	2-8	4-8	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.24	.24			
	8-16	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	16-21	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	21-40	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.17	.24			
	40-45	2-5	1.50-1.65	2.00-6.00	0.05-0.10	0.0-2.9	.15	.15			
	45-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
284E:											
Steuben---------	0-2	---	---	0.60-2.00	---	---	---	---	3	3	86
	2-8	4-8	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.24	.24			
	8-16	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	16-21	6-14	1.35-1.70	0.60-2.00	0.14-0.16	0.0-2.9	.24	.24			
	21-40	5-12	1.80-1.90	0.00-0.06	0.02-0.04	0.0-2.9	.17	.24			
	40-45	2-5	1.50-1.65	2.00-6.00	0.05-0.10	0.0-2.9	.15	.15			
	45-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Blue Lake-------	0-2	---	---	2.00-6.00	---	---	---	---	5	2	134
	2-7	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17			
	7-9	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	9-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
285B:											
Halfaday--------	0-2	---	---	6.00-20.00	0.35-0.45	---	---	---	5	1	220
	2-9	0-5	1.30-1.65	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	9-10	0-5	1.30-1.70	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-35	0-4	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	35-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Kinross---------	0-3	---	0.10-0.35	6.00-20.00	0.35-0.45	---	---	---	3	2	134
	3-14	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	14-22	0-5	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	22-35	0-3	1.40-1.70	6.00-20.00	0.04-0.09	0.0-2.9	.15	.15			
	35-80	0-1	1.40-1.70	6.00-20.00	0.04-0.06	0.0-2.9	.15	.15			
286B:											
Greylock--------	0-1	---	0.10-0.20	0.60-2.00	0.45-0.55	---	---	---	5	3	86
	1-6	2-8	1.30-1.60	0.60-2.00	0.12-0.18	0.0-2.9	.20	.24			
	6-7	2-8	1.30-1.65	0.60-2.00	0.09-0.18	0.0-2.9	.20	.24			
	7-9	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	9-19	4-10	1.35-1.70	0.60-2.00	0.11-0.17	0.0-2.9	.20	.24			
	19-26	4-10	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	26-34	6-15	1.50-1.75	0.60-2.00	0.08-0.17	0.0-2.9	.24	.28			
	34-80	6-14	1.60-1.80	0.60-2.00	0.11-0.16	0.0-2.9	.17	.28			
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	5	56
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			
287B:											
McMaster--------	0-2	---	0.20-0.30	2.00-6.00	0.35-0.45	---	---	---	3	3	56
	2-4	3-10	1.30-1.60	2.00-6.00	0.09-0.13	0.0-3.0	.10	.24			
	4-8	0-5	1.30-1.65	2.00-6.00	0.07-0.11	0.0-3.0	.10	.17			
	8-11	4-12	1.35-1.70	2.00-6.00	0.08-0.12	0.0-3.0	.10	.24			
	11-24	0-5	1.35-1.70	6.00-20.00	0.04-0.07	0.0-3.0	.10	.17			
	24-39	0-5	1.50-1.70	20.00-60.00	0.01-0.02	0.0-3.0	.02	.10			
	39-80	0-5	1.50-1.70	20.00-60.00	0.01-0.02	0.0-3.0	.02	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
287B:											
Davies----------	0-4	---	---	2.00-6.00	0.35-0.45	---	---	---	5	4	86
	4-11	0-6	1.50-1.75	2.00-6.00	0.06-0.09	0.0-2.9	.05	.24			
	11-80	0-4	1.50-1.70	20.00-60.00	0.02-0.04	0.0-2.9	.10	.02			
290A:											
Namur----------	0-3	5-10	1.35-1.55	0.60-2.00	0.19-0.24	0.0-3.0	.28	.37	1	5	56
	3-6	5-10	1.40-1.70	0.60-2.00	0.19-0.24	0.0-3.0	.28	.37			
	6-80	---	---	0.00-0.60	---	---	---	---			
Ruse----------	0-7	0-20	1.10-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.28	.28	1	8	0
	7-11	0-20	1.50-1.80	0.60-6.00	0.11-0.15	0.0-2.9	.24	.24			
	11-15	0-20	1.50-1.80	0.60-6.00	0.10-0.14	0.0-2.9	.24	.24			
	15-80	---	---	0.00-0.60	---	---	---	---			
292B:											
Mashek----------	0-6	2-6	1.30-1.60	0.60-2.00	0.14-0.18	0.0-2.9	.20	.24	5	3	86
	6-11	0-8	1.30-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.15	.17			
	11-38	2-14	1.50-1.70	0.60-2.00	0.08-0.17	0.0-2.9	.20	.24			
	38-63	6-12	1.80-2.10	0.00-0.06	0.04-0.06	0.0-2.9	.10	.24			
	63-80	0-4	1.50-1.60	20.00-60.00	0.05-0.10	0.0-2.9	.05	.10			
296D:											
Islandlake------	0-1	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	1	220
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
McMillan--------	0-1	---	---	0.60-2.00	---	---	---	---	4	3	86
	1-4	3-7	1.30-1.60	0.60-2.00	0.15-0.18	0.0-2.9	.24	.24			
	4-6	3-7	1.30-1.60	0.60-2.00	0.15-0.18	0.0-2.9	.24	.24			
	6-9	3-7	1.35-1.70	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37			
	9-16	3-7	1.35-1.70	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37			
	16-22	1-5	1.40-1.65	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
	22-32	1-5	1.40-1.65	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
	32-80	1-7	1.55-1.75	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
296E:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
McMillan--------	0-1	---	---	0.60-2.00	---	---	---	---	4	3	86
	1-4	3-7	1.30-1.60	0.60-2.00	0.15-0.18	0.0-2.9	.24	.24			
	4-6	3-7	1.30-1.60	0.60-2.00	0.15-0.18	0.0-2.9	.24	.24			
	6-9	3-7	1.35-1.70	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37			
	9-16	3-7	1.35-1.70	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37			
	16-22	1-5	1.40-1.65	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
	22-32	1-5	1.40-1.65	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
	32-80	1-7	1.55-1.75	6.00-20.00	0.02-0.04	0.0-2.9	.10	.15			
297B:											
Rubicon---------	0-3	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15	5	1	220
	3-28	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	28-36	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	36-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
297D:											
Rubicon---------	0-3	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15	5	1	220
	3-28	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	28-36	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	36-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
298B:											
Wurtsmith-------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	220
	1-4	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	4-24	0-2	1.40-1.65	6.00-20.00	0.04-0.08	0.0-2.9	.15	.15			
	24-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Deford----------	0-4	---	0.20-0.30	0.60-6.00	0.35-0.45	---	---	---	5	2	134
	4-80	0-10	1.40-1.65	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
299F:											
Shelldrake------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-3	---	---	6.00-20.00	---	---	---	---			
	3-4	0-4	1.30-1.55	6.00-20.00	0.07-0.09	---	.15	.15			
	4-80	0-4	1.55-1.65	6.00-20.00	0.05-0.07	---	.15	.15			
300F:											
Shelldrake------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-3	---	---	6.00-20.00	---	---	---	---			
	3-4	0-4	1.30-1.55	6.00-20.00	0.07-0.09	---	.15	.15			
	4-80	0-4	1.55-1.65	6.00-20.00	0.05-0.07	---	.15	.15			
Dune land-------	---	---	---	---	---	---	---	---	5	1	220
301F:											
Cookson---------	0-3	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	4	3	86
	3-7	0-18	1.30-1.60	0.60-6.00	0.14-0.24	0.0-2.9	.20	.24			
	7-11	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.28	.28			
	11-16	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.43	.43			
	16-21	0-18	1.35-1.70	0.60-6.00	0.15-0.24	0.0-2.9	.24	.24			
	21-31	5-25	1.35-1.71	0.60-2.00	0.11-0.22	0.0-2.9	.32	.32			
	31-36	0-25	1.60-1.80	0.60-2.00	0.10-0.22	0.0-2.9	.24	.24			
	36-80	---	---	0.00-0.60	---	---	---	---			
Nykanen---------	0-4	4-8	1.35-1.60	0.60-2.00	0.14-0.22	0.0-2.9	.37	.37	2	3	86
	4-14	4-8	1.35-1.70	0.60-2.00	0.14-0.19	0.0-2.9	.28	.37			
	14-25	---	---	0.20-0.60	---	---	---	---			
	25-80	---	---	0.00-0.20	---	---	---	---			
302B:											
Dillingham------	0-1	---	---	2.00-6.00	0.45-0.55	---	---	---	5	2	134
	1-8	2-7	1.30-1.60	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	8-11	2-7	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	11-21	2-7	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	21-31	2-10	1.80-2.10	0.06-0.20	0.03-0.06	0.0-2.9	.17	.17			
	31-80	2-7	1.55-1.75	2.00-6.00	0.02-0.04	0.0-2.9	.17	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
302D:											

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
Dillingham------	0-1	---	---	2.00-6.00	---	---	---	---	4	2	134
	1-8	1-5	1.30-1.60	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	8-11	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	11-21	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	21-31	1-5	1.80-2.10	0.06-0.20	0.03-0.06	0.0-2.9	.17	.17			
	31-80	0-5	1.55-1.75	2.00-6.00	0.02-0.04	0.0-2.9	.17	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
302E:											
Dillingham------	0-1	---	---	2.00-6.00	---	---	---	---	4	2	134
	1-8	1-5	1.30-1.60	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	8-11	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	11-21	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	21-31	1-5	1.80-2.10	0.06-0.20	0.03-0.06	0.0-2.9	.17	.17			
	31-80	0-5	1.55-1.75	2.00-6.00	0.02-0.04	0.0-2.9	.17	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
302F:											
Dillingham------	0-1	---	---	2.00-6.00	---	---	---	---	4	2	134
	1-8	1-5	1.30-1.60	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	8-11	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	11-21	1-5	1.40-1.70	2.00-6.00	0.10-0.12	0.0-2.9	.17	.17			
	21-31	1-5	1.80-2.10	0.06-0.20	0.03-0.06	0.0-2.9	.17	.17			
	31-80	0-5	1.55-1.75	2.00-6.00	0.02-0.04	0.0-2.9	.17	.17			
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
303B:											
Kiva----------	0-3	2-6	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.24	.24	3	3	86
	3-6	0-6	1.35-1.65	2.00-6.00	0.09-0.12	0.0-2.9	.15	.17			
	6-15	2-7	1.35-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.24	.24			
	15-23	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.10	.17			
	23-80	0-2	1.55-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.05	.10			
Trenary---------	0-2	1-10	1.30-1.60	0.60-2.00	0.11-0.24	0.0-2.9	.28	.28	5	5	56
	2-6	2-8	1.30-1.60	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	6-12	2-8	1.35-1.65	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	12-17	4-12	1.35-1.70	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	17-26	4-10	1.35-1.70	0.60-2.00	0.10-0.14	0.0-3.0	.20	.24			
	26-37	15-27	1.35-1.70	0.60-2.00	0.15-0.17	0.0-3.0	.28	.32			
	37-80	5-14	1.70-1.85	0.60-2.00	0.10-0.15	0.0-3.0	.20	.28			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
303D:											
Kiva----------	0-3	2-6	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.24	.24	3	3	86
	3-6	0-6	1.35-1.65	2.00-6.00	0.09-0.12	0.0-2.9	.15	.17			
	6-15	2-7	1.35-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.24	.24			
	15-23	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.10	.17			
	23-80	0-2	1.55-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.05	.10			
Trenary---------	0-2	1-10	1.30-1.60	0.60-2.00	0.11-0.24	0.0-2.9	.28	.28	5	5	56
	2-6	2-8	1.30-1.60	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	6-12	2-8	1.35-1.65	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	12-17	4-12	1.35-1.70	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	17-26	4-10	1.35-1.70	0.60-2.00	0.10-0.14	0.0-3.0	.20	.24			
	26-37	15-27	1.35-1.70	0.60-2.00	0.15-0.17	0.0-3.0	.28	.32			
	37-80	5-14	1.70-1.85	0.60-2.00	0.10-0.15	0.0-3.0	.20	.28			
303E:											
Kiva----------	0-3	2-6	1.30-1.60	0.60-2.00	0.09-0.18	0.0-2.9	.24	.24	3	3	86
	3-6	0-6	1.35-1.65	2.00-6.00	0.09-0.12	0.0-2.9	.15	.17			
	6-15	2-7	1.35-1.70	0.60-2.00	0.09-0.17	0.0-2.9	.24	.24			
	15-23	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.10	.17			
	23-80	0-2	1.55-1.65	20.00-60.00	0.01-0.03	0.0-2.9	.05	.10			
Trenary---------	0-2	1-10	1.30-1.60	0.60-2.00	0.11-0.24	0.0-2.9	.28	.28	5	5	56
	2-6	2-8	1.30-1.60	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	6-12	2-8	1.35-1.65	0.60-2.00	0.14-0.24	0.0-3.0	.20	.24			
	12-17	4-12	1.35-1.70	0.60-2.00	0.13-0.17	0.0-3.0	.20	.24			
	17-26	4-10	1.35-1.70	0.60-2.00	0.10-0.14	0.0-3.0	.20	.24			
	26-37	15-27	1.35-1.70	0.60-2.00	0.15-0.17	0.0-3.0	.28	.32			
	37-80	5-14	1.70-1.85	0.60-2.00	0.10-0.15	0.0-3.0	.20	.28			
305B:											
Wurtsmith-------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	220
	1-4	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	4-24	0-2	1.40-1.65	6.00-20.00	0.04-0.08	0.0-2.9	.15	.15			
	24-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
Meehan----------	0-3	---	---	6.00-20.00	---	---	---	---	5	1	220
	3-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-28	0-2	1.40-1.65	6.00-20.00	0.04-0.08	0.0-2.9	.15	.15			
	28-80	0-2	1.55-1.65	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			
306C:											
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	1	220
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
Tokiahok--------	0-2	---	---	6.00-20.00	---	---	---	---	4	2	134
	2-11	0-10	1.35-1.65	6.00-20.00	0.10-0.12	0.0-2.9	.15	.17			
	11-15	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	15-24	0-10	1.30-1.70	6.00-20.00	0.07-0.12	0.0-2.9	.15	.17			
	24-59	2-15	1.80-2.10	0.00-0.06	0.02-0.04	0.0-2.9	.20	.24			
	59-80	8-15	1.60-1.80	0.60-2.00	0.09-0.13	0.0-2.9	.20	.24			
Jeske----------	0-3	---	0.30-0.40	6.00-20.00	0.35-0.45	---	---	---	2	1	220
	3-21	0-5	1.50-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	21-31	---	---	0.20-0.60	0.01-0.02	---	---	---			
	31-80	---	---	0.00-0.20	---	---	---	---			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
307B:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
307D:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
308B:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
Sultz-----------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-2	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	2-6	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	6-18	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	18-51	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	51-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
308D:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
Sultz-----------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	250
	1-2	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	2-6	0-10	1.30-1.55	6.00-20.00	0.07-0.09	0.0-2.9	.15	.15			
	6-18	0-10	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	18-51	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	51-80	0-15	1.55-1.75	0.20-0.60	0.08-0.20	0.0-2.9	.24	.24			
309B:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
309D:											
Rubicon---------	0-2	---	---	6.00-20.00	---	---	---	---	5	1	220
	2-5	0-5	1.30-1.55	6.00-20.00	0.06-0.12	0.0-2.9	.15	.15			
	5-30	0-5	1.30-1.60	6.00-20.00	0.05-0.08	0.0-2.9	.15	.15			
	30-38	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
	38-80	0-5	1.50-1.60	6.00-20.00	0.02-0.07	0.0-2.9	.15	.15			
310B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
310D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
310E:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
311B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
311D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
312B:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
312D:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	220
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
313B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
314B:											
Blue Lake-------	0-5	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17	5	2	134
	5-7	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	7-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
315B:											
Blue Lake-------	0-5	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17	5	2	134
	5-7	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	7-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
316B:											
Blue Lake-------	0-5	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17	5	2	134
	5-7	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	7-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
316D:											
Blue Lake-------	0-5	0-8	1.35-1.65	2.00-6.00	0.09-0.12	0.0-3.0	.15	.17	5	2	134
	5-7	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	7-27	0-8	1.30-1.70	2.00-6.00	0.06-0.11	0.0-3.0	.15	.17			
	27-80	0-10	1.35-1.65	2.00-6.00	0.07-0.10	0.0-3.0	.15	.17			
317B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
317D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
318B:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
318D:											
Islandlake------	0-1	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	1	220
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
319B:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct					
319D:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	1	220
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
319E:											
Islandlake------	0-1	---	---	6.00-20.00	---	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
319F:											
Islandlake------	0-1	---	0.05-0.15	6.00-20.00	0.55-0.65	---	---	---	5	2	134
	1-2	0-9	1.30-1.45	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	2-8	0-9	1.30-1.55	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	8-9	0-9	1.40-1.65	6.00-20.00	0.07-0.12	0.0-2.9	.15	.15			
	9-41	0-5	1.40-1.65	6.00-20.00	0.06-0.08	0.0-2.9	.15	.15			
	41-80	0-9	1.55-1.65	6.00-20.00	0.05-0.10	0.0-2.9	.15	.15			
320B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
321B:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	2	134
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			
321D:											
Kalkaska--------	0-2	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15	5	1	220
	2-6	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	6-8	0-10	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	8-16	0-10	1.40-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	16-26	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
	26-80	0-10	1.55-1.65	6.00-20.00	0.05-0.07	0.0-2.9	.15	.15			
Deerton---------	0-1	---	---	6.00-20.00	0.35-0.45	---	---	---	4	1	220
	1-9	0-5	1.30-1.55	6.00-20.00	0.06-0.09	0.0-2.9	.15	.15			
	9-10	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	10-25	0-10	1.40-1.65	6.00-20.00	0.06-0.11	0.0-2.9	.15	.15			
	25-39	---	---	0.20-0.60	---	---	---	---			
	39-80	---	---	0.00-0.20	---	---	---	---			

Table 18.--Chemical Properties of the Soils

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
10. Beaches						
11C:						
Deer Park-------	0-2	3.5-6.0	50-90	---	---	0
	2-3	3.5-6.0	2.0-5.0	---	2.5-4.2	0
	3-10	3.5-6.0	0.5-2.0	---	0.0-1.4	0
	10-21	3.5-6.5	0.5-3.0	---	0.0-1.4	0
	21-80	3.5-6.5	0.0-0.5	---	0.0-1.4	0
11E:						
Deer Park-------	0-2	3.5-6.0	50-90	---	---	0
	2-3	3.5-6.0	2.0-5.0	---	2.5-4.2	0
	3-10	3.5-6.0	0.5-2.0	---	0.0-1.4	0
	10-21	3.5-6.5	0.5-3.0	---	0.0-1.4	0
	21-80	3.5-6.5	0.0-0.5	---	0.0-1.4	0
11F:						
Deer Park-------	0-2	3.5-6.0	50-90	---	---	0
	2-3	3.5-6.0	2.0-5.0	---	2.5-4.2	0
	3-10	3.5-6.0	0.5-2.0	---	0.0-1.4	0
	10-21	3.5-6.5	0.5-3.0	---	0.0-1.4	0
	21-80	3.5-6.5	0.0-0.5	---	0.0-1.4	0
12B:						
Rubicon---------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
12D:						
Rubicon---------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
12E:						
Rubicon---------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
13B:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
13D:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
13E:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
15A:						
Croswell--------	0-2	4.5-5.0	50-90	---	---	0
	2-6	3.5-6.0	0.1-1.0	---	0.2-7.0	0
	6-15	4.5-6.0	0.5-3.0	---	1.0-12	0
	15-22	5.1-6.5	0.0-0.5	0.0-7.0	---	0
	22-80	5.1-6.5	0.0-0.5	0.0-7.0	---	0
16A:						
Paquin----------	0-2	3.5-5.0	50-90	---	---	0
	2-12	3.5-5.5	0.5-2.0	---	3.0-5.0	0
	12-14	3.5-5.5	2.0-5.0	---	1.0-4.0	0
	14-17	3.5-5.5	1.0-5.0	---	1.0-2.0	0
	17-27	3.5-5.5	1.0-5.0	---	1.0-2.0	0
	27-34	4.5-6.0	0.2-1.0	---	1.0-2.0	0
	34-80	4.5-6.5	0.0-0.5	3.0-5.0	---	0
17A:						
Au Gres---------	0-2	3.5-4.4	50-90	---	---	0
	2-7	3.5-6.0	0.1-1.0	---	0.2-7.0	0
	7-17	4.5-6.5	0.5-3.0	1.0-12	---	0
	17-28	4.5-6.5	0.0-0.5	---	1.0-7.0	0
	28-80	4.5-6.5	0.0-0.5	---	1.0-7.0	0
18:						
Kinross---------	0-3	3.4-5.0	75-90	---	100-180	0
	3-14	3.6-5.0	0.5-2.0	---	1.0-10	0
	14-22	3.6-6.0	2.0-5.0	---	1.0-10	0
	22-35	3.6-6.0	0.5-3.0	---	1.0-10	0
	35-80	4.5-6.5	0.0-0.5	---	1.0-2.0	0
19:						
Deford----------	0-4	4.5-6.0	75-90	---	75-135	0
	4-80	5.1-7.8	0.0-0.5	---	0.0-5.3	0
21A:						
Ingalls---------	0-4	3.0-5.5	60-90	120-180	---	0
	4-5	3.5-5.5	2.0-5.0	---	4.0-20	0
	5-14	3.5-5.5	0.5-2.0	---	1.0-4.0	0
	14-16	3.5-6.0	2.0-5.0	---	4.0-16	0
	16-35	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	35-80	5.6-7.8	0.0-0.5	1.0-9.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
24B:						
Munising--------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
25B:						
Munising--------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Yalmer----------	0-1	3.5-6.0	50-90	---	---	0
	1-3	3.5-6.0	2.0-5.0	---	4.0-12	0
	3-8	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	8-11	3.5-6.0	2.0-5.0	---	4.0-12	0
	11-24	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	24-40	3.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-66	3.5-6.0	0.0-0.5	---	4.0-10	0
	66-80	5.6-6.5	0.0-0.5	4.0-12	---	0
25D:						
Munising--------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Yalmer----------	0-1	3.5-6.0	50-90	---	---	0
	1-3	3.5-6.0	2.0-5.0	---	4.0-12	0
	3-8	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	8-11	3.5-6.0	2.0-5.0	---	4.0-12	0
	11-24	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	24-40	3.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-66	3.5-6.0	0.0-0.5	---	4.0-10	0
	66-80	5.6-6.5	0.0-0.5	4.0-12	---	0
31D:						
Trenary---------	0-2	4.5-6.5	2.0-5.0	4.0-16	---	0
	2-6	4.5-6.5	0.5-2.0	1.0-12	---	0
	6-12	4.5-6.0	2.0-5.0	---	2.0-16	0
	12-17	4.5-5.5	0.5-3.0	---	2.0-16	0
	17-26	5.1-6.5	0.5-2.0	---	1.0-10	0
	26-37	5.1-7.8	0.0-0.5	4.0-12	---	0
	37-80	6.6-8.4	0.0-0.5	2.0-9.0	---	10-30
33:						
Ensley----------	0-5	6.1-7.8	50-90	100-180	---	0
	5-7	6.1-7.3	10-50	22-116	---	0
	7-19	6.6-7.8	0.5-1.0	1.0-14	---	0
	19-80	6.6-7.8	0.0-0.5	2.0-13	---	10-20

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
35B:						
Munising, calcareous substratum-----	0-1	3.5-5.5	50-90	---	---	0
	1-3	4.5-6.0	0.5-2.0	---	3.0-12	0
	3-6	4.5-6.0	2.0-5.0	---	6.0-20	0
	6-23	4.5-6.0	0.5-3.0	---	3.0-14	0
	23-38	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	38-50	5.1-6.5	0.0-0.5	2.0-10	---	0
	50-63	5.0-6.0	0.0-0.5	2.0-12	---	0
	63-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Yalmer, calcareous substratum-----	0-1	3.5-5.5	50-90	---	---	0
	1-2	3.5-5.5	2.0-5.0	---	4.0-18	0
	2-5	3.5-5.5	0.5-2.0	---	1.0-8.0	0
	5-16	4.5-6.0	2.0-5.0	---	4.0-16	0
	16-28	4.5-6.0	0.5-3.0	1.0-6.0	---	0
	28-36	5.1-6.5	0.0-0.5	1.0-5.0	---	0
	36-62	5.1-6.5	0.0-0.5	2.0-10	---	0
	62-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Frohling, calcareous substratum-----	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-5.5	0.5-2.0	---	0.7-9.0	0
	5-24	4.5-5.5	0.5-3.0	---	0.4-2.2	0
	24-73	5.1-6.0	0.0-0.5	2.1-6.4	---	0
	73-80	7.4-8.4	0.0-0.5	4.1-6.4	---	10-30
37B:						
Grand Sable-----	0-1	4.5-5.5	50-90	---	---	0
	1-4	4.5-5.5	2.0-5.0	---	4.0-12	0
	4-30	5.1-6.0	0.5-1.0	1.0-3.0	---	0
	30-32	5.1-6.0	0.5-2.0	1.5-6.6	---	0
	32-43	5.1-6.5	0.5-3.0	1.0-6.0	---	0
	43-55	5.1-6.5	0.0-0.5	1.0-3.0	---	0
	55-80	5.1-6.5	0.0-0.5	1.0-3.0	---	0
37E:						
Grand Sable-----	0-1	4.5-5.5	50-90	---	---	0
	1-4	4.5-5.5	2.0-5.0	---	4.0-12	0
	4-30	5.1-6.0	0.5-1.0	1.0-3.0	---	0
	30-32	5.1-6.0	0.5-2.0	1.5-6.6	---	0
	32-43	5.1-6.5	0.5-3.0	1.0-6.0	---	0
	43-55	5.1-6.5	0.0-0.5	1.0-3.0	---	0
	55-80	5.1-6.5	0.0-0.5	1.0-3.0	---	0
38B:						
Rhody----------	0-19	5.6-6.5	2.0-30	4.0-60	---	0
	19-36	6.1-7.3	0.0-5.0	0.0-1.0	---	0
	36-41	---	---	---	---	0
	41-80	---	---	---	---	0
Towes----------	0-19	5.1-6.0	2.0-5.0	---	4.0-12	0
	19-22	5.6-6.5	0.5-1.0	0.0-3.0	---	0
	22-26	6.1-7.3	0.0-0.5	0.0-1.0	---	0
	26-37	---	---	---	---	0
	37-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
40B:						
Waiska, very stony----------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	4-8	3.5-6.0	2.0-5.0	---	4.0-12	0
	8-18	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	18-80	5.1-6.0	0.0-0.5	---	0.0-3.0	0
42:						
Davies----------	0-4	5.1-6.0	75-90	---	---	0
	4-11	5.1-6.5	0.5-1.0	1.0-6.0	---	0
	11-80	5.6-7.3	0.0-0.5	0.0-1.0	---	0
46:						
Jacobsville, very stony-----	0-5	4.5-5.5	75-90	100-180	---	0
	5-9	4.5-6.0	0.5-2.0	---	3.0-12	0
	9-23	4.5-6.5	0.5-1.0	---	4.0-13	0
	23-36	5.1-6.5	0.0-0.5	2.0-13	---	0
	36-80	---	---	---	---	0
47C:						
Deerton---------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
Au Train--------	0-2	3.5-5.0	50-90	---	100-180	0
	2-9	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	9-14	3.5-5.5	2.0-5.0	---	4.0-10	0
	14-32	---	---	---	---	0
	32-80	---	---	---	---	0
47E:						
Deerton---------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
Au Train--------	0-2	3.5-5.0	50-90	---	100-180	0
	2-9	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	9-14	3.5-5.5	2.0-5.0	---	4.0-10	0
	14-32	---	---	---	---	0
	32-80	---	---	---	---	0
48:						
Burt----------	0-1	4.5-6.0	50-90	---	---	0
	1-5	4.5-6.5	10-20	20-60	---	0
	5-19	4.5-6.5	0.0-0.5	0.0-6.0	---	0
	19-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
49B:						
Cookson---------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
51:						
Nahma----------	0-11	6.1-7.3	75-90	100-180	---	0
	11-14	6.1-7.8	2.0-5.0	2.8-11	---	0
	14-17	6.1-7.8	2.0-5.0	2.8-11	---	0
	17-19	6.1-7.8	0.5-1.0	2.7-11	---	0
	19-24	6.6-8.4	0.0-0.5	2.6-11	---	10-30
	24-80	---	---	---	---	---
Ruse----------	0-7	6.1-7.8	10-30	20-72	---	0
	7-11	6.1-8.4	2.0-5.0	4.0-22	---	10-30
	11-15	6.1-8.4	0.5-1.0	1.0-14	---	10-30
	15-80	---	---	---	---	---
52B:						
Summerville-----	0-3	6.1-8.4	2.0-5.0	4.0-16	---	0
	3-13	5.6-8.4	0.5-1.0	1.0-8.0	---	0
	13-80	---	---	---	---	0
57:						
Carbondale------	0-38	5.1-7.3	75-90	100-180	---	0
	38-80	5.1-7.3	90-95	100-180	---	0
Lupton----------	0-4	4.5-7.8	85-95	100-180	---	0
	4-80	4.5-7.8	80-95	100-180	---	0
Tawas----------	0-26	4.5-6.5	75-90	---	100-180	0
	26-80	5.1-6.5	0.0-0.5	1.0-2.0	---	0
58:						
Dawson----------	0-10	3.0-4.4	85-95	---	100-180	0
	10-38	3.0-4.4	80-95	---	100-180	0
	38-80	3.0-6.5	0.0-0.5	---	0.2-7.0	0
Greenwood-------	0-65	3.5-4.4	85-95	---	100-180	0
	65-80	3.5-4.4	80-95	---	100-180	0
Loxley----------	0-8	3.5-4.4	85-95	---	100-180	0
	8-80	3.5-4.4	80-95	---	100-180	0
59:						
Chippeny--------	0-20	5.6-7.8	75-90	100-180	---	0
	20-28	6.6-9.0	0.0-0.5	2.0-24	---	10-30
	28-80	---	---	---	---	---
Nahma----------	0-11	6.1-7.3	75-90	100-180	---	0
	11-14	6.1-7.8	2.0-5.0	2.8-11	---	0
	14-17	6.1-7.8	2.0-5.0	2.8-11	---	0
	17-19	6.1-7.8	0.5-1.0	2.7-11	---	0
	19-24	6.6-8.4	0.0-0.5	2.6-11	---	10-30
	24-80	---	---	---	---	---

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
60:						
Histosols-------	0-91	---	75-90	---	---	0
Aquents---------	0-80	---	---	---	---	0
61.						
Pits						
62F:						
Udipsamments----	0-80	---	0.5-1.0	---	---	0
Udorthents------	0-80	---	---	---	---	0
64B:						
Kiva----------	0-3	5.1-6.0	2.0-5.0	---	4.0-14	0
	3-6	5.1-6.0	0.5-2.0	---	1.0-6.0	0
	6-15	5.1-6.0	0.5-3.0	1.0-10	---	0
	15-23	5.1-6.5	0.5-3.0	1.0-3.0	---	0
	23-80	7.4-9.0	0.0-0.5	0.0-1.0	---	10-25
64D:						
Kiva----------	0-3	5.1-6.0	2.0-5.0	---	4.0-14	0
	3-6	5.1-6.0	0.5-2.0	---	1.0-6.0	0
	6-15	5.1-6.0	0.5-3.0	1.0-10	---	0
	15-23	5.1-6.5	0.5-3.0	1.0-3.0	---	0
	23-80	7.4-9.0	0.0-0.5	0.0-1.0	---	10-25
65D:						
Jeske, bedrock terrace--------	0-3	3.5-5.5	50-90	---	---	0
	3-21	4.5-6.0	0.0-0.5	0.0-4.0	---	0
	21-31	4.5-6.0	---	---	---	0
	31-80	4.5-6.0	---	---	---	0
Gongeau, bedrock terrace--------	0-5	3.5-5.0	75-90	---	---	0
	5-7	4.5-6.0	10-30	---	20-60	0
	7-18	4.5-6.0	0.0-0.5	0.0-1.0	---	0
	18-29	4.5-6.0	---	---	---	0
	29-80	4.5-6.0	---	---	---	0
Deerton, bedrock terrace--------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
65F:						
Jeske, bedrock terrace--------	0-3	3.5-5.5	50-90	---	---	0
	3-21	4.5-6.0	0.0-0.5	0.0-4.0	---	0
	21-31	4.5-6.0	---	---	---	0
	31-80	4.5-6.0	---	---	---	0
Gongeau, bedrock terrace--------	0-5	3.5-5.0	75-90	---	---	0
	5-7	4.5-6.0	10-30	---	20-60	0
	7-18	4.5-6.0	0.0-0.5	0.0-1.0	---	0
	18-29	4.5-6.0	---	---	---	0
	29-80	4.5-6.0	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
65F:						
Deerton, bedrock terrace--------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
66D:						
Ruse, bedrock terrace--------	0-10	6.1-7.8	10-30	20-60	---	0
	10-13	6.1-7.8	2.0-5.0	5.0-20	---	10-30
	13-19	6.1-7.8	---	---	---	10-30
	19-80	---	---	---	---	---
Ensign, bedrock terrace--------	0-10	6.1-7.8	2.0-5.0	6.0-16	---	0
	10-14	6.1-7.8	0.5-3.0	6.0-16	---	0
	14-18	6.1-7.8	---	---	---	0
	18-80	---	---	---	---	0
Nykanen, bedrock terrace--------	0-4	4.5-5.5	2.0-5.0	---	8.0-14	0
	4-14	4.5-5.5	0.5-5.0	---	8.0-14	0
	14-25	---	---	---	---	0
	25-80	---	---	---	---	0
66F:						
Ruse, bedrock terrace--------	0-10	6.1-7.8	10-30	20-60	---	0
	10-13	6.1-7.8	2.0-5.0	5.0-20	---	10-30
	13-19	6.1-7.8	---	---	---	10-30
	19-80	---	---	---	---	---
Ensign, bedrock terrace--------	0-10	6.1-7.8	2.0-5.0	6.0-16	---	0
	10-14	6.1-7.8	0.5-3.0	---	---	0
	14-18	6.1-7.8	---	---	---	0
	18-80	---	---	---	---	0
Nykanen, bedrock terrace--------	0-4	4.5-5.5	2.0-5.0	---	8.0-14	0
	4-14	4.5-5.5	0.5-5.0	---	8.0-14	0
	14-25	---	---	---	---	0
	25-80	---	---	---	---	0
68.						
Pits, quarry						
69B:						
Escanaba--------	0-1	5.1-6.0	50-90	---	---	0
	1-3	5.1-6.0	2.0-5.0	4.0-12	---	0
	3-6	5.1-6.0	0.5-2.0	4.0-12	---	0
	6-26	5.1-6.0	0.5-3.0	1.0-10	---	0
	26-35	6.1-7.3	0.0-0.5	3.0-9.0	---	0
	35-42	6.1-7.3	0.0-0.5	6.0-12	---	0
	42-80	6.6-7.8	0.0-0.5	3.0-9.0	---	10-30

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
71A:						
Evart----------	0-10	6.1-7.8	2.0-5.0	5.0-16	---	0
	10-18	6.1-7.8	2.0-5.0	4.0-12	---	0
	18-80	6.1-8.4	0.0-0.5	0.0-1.0	---	0
Sturgeon--------	0-6	4.5-6.5	2.0-5.0	5.0-15	---	0
	6-16	4.5-6.5	0.5-1.0	3.0-8.0	---	0
	16-80	4.5-6.5	0.5-1.0	0.0-5.0	---	0
72E:						
Deerton, dissected------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
Tokiahok, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-11	4.5-5.5	0.5-2.0	---	1.0-7.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-16	0
	15-24	4.5-5.5	0.5-3.0	---	1.0-12	0
	24-59	4.5-6.5	0.0-0.5	1.0-10	---	0
	59-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Trout Bay, dissected------	0-19	5.1-6.0	75-90	100-180	---	0
	19-34	---	---	---	---	0
	34-80	---	---	---	---	0
72F:						
Deerton, dissected------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
Tokiahok, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-11	4.5-5.5	0.5-2.0	---	1.0-7.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-16	0
	15-24	4.5-5.5	0.5-3.0	---	1.0-12	0
	24-59	4.5-6.5	0.0-0.5	1.0-10	---	0
	59-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Trout Bay, dissected------	0-19	5.1-6.0	75-90	100-180	---	0
	19-34	---	---	---	---	0
	34-80	---	---	---	---	0
76C:						
Garlic, dissected------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
76C:						
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Voelker, dissected------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
76E:						
Garlic, dissected------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	---	0
	9-11	3.5-5.5	2.0-5.0	---	---	0
	11-20	3.5-5.5	0.5-3.0	---	---	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Voelker, dissected------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
76F:						
Garlic, dissected------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	---	0
	9-11	3.5-5.5	2.0-5.0	---	---	0
	11-20	3.5-5.5	0.5-3.0	---	---	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
76F:						
Voelker, dissected------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
77B:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Voelker---------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
77D:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Voelker---------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
77E:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	---	0
	9-11	3.5-5.5	2.0-5.0	---	---	0
	11-20	3.5-5.5	0.5-3.0	---	---	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
77E:						
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Voelker---------	0-1	4.5-5.5	50-90	---	---	0
	1-5	4.5-5.5	2.0-5.0	---	4.0-10	0
	5-11	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-10	0
	15-31	4.5-5.5	2.0-5.0	---	4.0-10	0
	31-39	5.1-6.0	0.0-0.5	0.0-7.0	---	0
	39-80	5.1-6.0	0.0-0.5	0.0-8.0	---	0
88:						
Cathro----------	0-34	4.5-6.5	75-90	100-180	---	0
	34-80	5.6-8.4	0.0-0.5	2.0-12	---	10-30
Ensley----------	0-5	6.1-7.8	75-90	100-180	---	0
	5-7	6.1-7.3	10-50	22-116	---	0
	7-19	6.6-7.8	0.5-1.0	1.0-14	---	0
	19-80	6.6-7.8	0.0-0.5	2.0-13	---	10-20
93:						
Tawas----------	0-26	4.5-6.5	75-90	---	100-180	0
	26-80	5.1-6.5	0.0-0.5	1.0-2.0	---	0
Deford----------	0-4	4.5-6.0	75-90	---	75-135	0
	4-80	5.1-7.8	0.0-0.5	---	0.0-5.3	0
95B:						
Liminga---------	0-1	3.5-5.0	50-90	---	---	0
	1-7	3.5-6.0	0.5-2.0	---	3.0-5.0	0
	7-9	3.5-6.0	2.0-5.0	---	4.0-9.0	0
	9-22	3.5-6.0	0.5-3.0	---	3.0-5.0	0
	22-31	3.5-6.0	0.0-0.5	---	3.0-5.0	0
	31-80	3.5-6.5	0.0-0.5	---	0.2-4.0	0
104C:						
Fence, dissected	0-3	3.5-6.0	2.0-5.0	---	3.0-16	0
	3-7	3.5-6.0	0.5-2.0	---	3.0-10	0
	7-11	3.5-6.0	2.0-5.0	8.0-16	---	0
	11-19	4.5-6.0	0.5-2.0	1.0-10	---	0
	19-42	4.5-6.5	0.0-0.5	4.0-20	---	0
	42-80	5.1-7.8	0.0-0.5	1.0-15	---	0-30
109D:						
Rousseau--------	0-1	3.5-6.0	50-90	---	---	0
	1-4	3.5-6.0	0.1-1.0	---	0.2-8.0	0
	4-20	3.5-6.5	0.5-3.0	---	1.0-12	0
	20-33	3.5-6.5	0.0-0.5	---	0.0-7.0	0
	33-66	3.5-6.5	0.0-0.5	0.0-7.0	---	0
	66-80	3.5-6.5	0.0-0.5	0.0-7.0	---	0
Dawson----------	0-10	3.0-4.4	85-95	---	100-180	0
	10-20	3.0-4.4	90-95	---	100-180	0
	20-38	3.0-4.4	80-95	---	100-180	0
	38-80	3.0-6.5	0.0-0.5	---	0.2-7.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
109F:						
Rousseau--------	0-1	3.5-6.0	50-90	---	---	0
	1-4	3.5-6.0	0.1-1.0	---	0.2-8.0	0
	4-20	3.5-6.5	0.5-3.0	---	1.0-12	0
	20-33	3.5-6.5	0.0-0.5	---	0.0-7.0	0
	33-66	3.5-6.5	0.0-0.5	0.0-7.0	---	0
	66-80	3.5-6.5	0.0-0.5	0.0-7.0	---	0
Dawson----------	0-10	3.0-4.4	85-95	---	100-180	0
	10-20	3.0-4.4	90-95	---	100-180	0
	20-38	3.0-4.4	80-95	---	100-180	0
	38-80	3.0-6.5	0.0-0.5	---	0.2-7.0	0
125B:						
Stutts----------	0-1	3.5-5.0	50-90	---	---	0
	1-2	3.5-5.5	2.0-5.0	---	2.0-8.0	0
	2-7	3.5-5.5	0.5-2.0	---	2.0-6.0	0
	7-9	3.5-5.5	2.0-5.0	---	2.0-12	0
	9-13	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	13-19	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	19-80	4.5-6.5	0.0-0.5	---	0.0-2.0	0
Kalkaska--------	0-1	3.6-5.0	50-90	---	---	0
	1-6	3.6-5.5	0.5-2.0	---	3.0-5.0	0
	6-8	3.6-5.5	2.0-5.0	---	1.0-3.0	0
	8-12	4.5-6.0	0.5-3.0	---	0.5-1.0	0
	12-23	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	23-38	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	38-80	4.5-6.5	0.0-0.5	---	0.1-0.5	0
125D:						
Stutts----------	0-1	3.5-5.0	50-90	---	---	0
	1-2	3.5-5.5	2.0-5.0	---	2.0-8.0	0
	2-7	3.5-5.5	0.5-2.0	---	2.0-6.0	0
	7-9	3.5-5.5	2.0-5.0	---	2.0-12	0
	9-13	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	13-19	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	19-80	4.5-6.5	0.0-0.5	---	0.0-2.0	0
Kalkaska--------	0-1	3.6-5.0	50-90	---	---	0
	1-6	3.6-5.5	0.5-2.0	---	3.0-5.0	0
	6-8	3.6-5.5	2.0-5.0	---	1.0-3.0	0
	8-12	4.5-6.0	0.5-3.0	---	0.5-1.0	0
	12-23	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	23-38	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	38-80	4.5-6.5	0.0-0.5	---	0.1-0.5	0
125E:						
Stutts----------	0-1	3.5-5.0	50-90	---	---	0
	1-2	3.5-5.5	2.0-5.0	---	2.0-8.0	0
	2-7	3.5-5.5	0.5-2.0	---	2.0-6.0	0
	7-9	3.5-5.5	2.0-5.0	---	2.0-12	0
	9-13	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	13-19	4.5-6.0	0.5-3.0	---	1.8-6.2	0
	19-80	4.5-6.5	0.0-0.5	---	0.0-2.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
125E:						
Kalkaska--------	0-1	3.6-5.0	50-90	---	---	0
	1-6	3.6-5.5	0.5-2.0	---	3.0-5.0	0
	6-8	3.6-5.5	2.0-5.0	---	1.0-3.0	0
	8-12	4.5-6.0	0.5-3.0	---	0.5-1.0	0
	12-23	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	23-38	4.5-6.0	0.0-0.5	---	0.1-0.5	0
	38-80	4.5-6.5	0.0-0.5	---	0.1-0.5	0
135B:						
Munising, calcareous substratum-----	0-1	3.5-5.5	50-90	---	---	0
	1-3	4.5-6.0	0.5-2.0	---	3.0-12	0
	3-6	4.5-6.0	2.0-5.0	---	6.0-20	0
	6-23	4.5-6.0	0.5-3.0	---	3.0-14	0
	23-38	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	38-50	5.1-6.5	0.0-0.5	2.0-10	---	0
	50-63	5.0-6.0	0.0-0.5	2.0-12	---	0
	63-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Ensley----------	0-5	6.1-7.8	75-90	100-180	---	0
	5-7	6.1-7.3	10-50	22-116	---	0
	7-19	6.6-7.8	0.5-1.0	1.0-14	---	0
	19-80	6.6-7.8	0.0-0.5	2.0-13	---	10-20
145C:						
Munising, dissected, very stony----------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Yalmer, dissected, very stony----------	0-1	3.5-6.0	50-90	---	---	0
	1-3	3.5-6.0	2.0-5.0	---	4.0-12	0
	3-8	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	8-11	3.5-6.0	2.0-5.0	---	4.0-12	0
	11-24	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	24-40	3.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-66	3.5-6.0	0.0-0.5	---	4.0-10	0
	66-80	5.6-6.5	0.0-0.5	4.0-12	---	0
146B:						
Munising, stony	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
146B:						
Skanee, stony---	0-2	3.5-5.5	50-90	---	---	0
	2-8	3.5-5.5	2.0-5.0	---	4.0-16	0
	8-14	3.5-6.0	2.0-5.0	---	4.0-16	0
	14-31	3.5-6.0	0.0-0.5	---	2.0-8.0	0
	31-42	3.5-6.0	0.0-0.5	6.0-21	---	0
	42-80	4.5-6.0	0.0-0.5	3.0-9.0	---	0
147A:						
Skanee, very stony----------	0-2	3.5-5.5	50-90	---	---	0
	2-8	3.5-5.5	2.0-5.0	---	4.0-16	0
	8-14	3.5-6.0	2.0-5.0	---	4.0-16	0
	14-31	3.5-6.0	0.0-0.5	---	2.0-8.0	0
	31-42	3.5-6.0	0.0-0.5	6.0-21	---	0
	42-80	4.5-6.0	0.0-0.5	3.0-9.0	---	0
Gay, very stony	0-4	5.1-6.0	75-90	---	100-180	0
	4-7	5.1-6.5	2.0-8.0	---	4.0-65	0
	7-11	5.1-6.5	0.5-2.0	2.0-10	---	0
	11-16	5.1-6.5	0.5-1.0	3.0-22	---	0
	16-80	5.6-7.3	0.0-0.5	3.0-8.0	---	0
148B:						
Shoepac---------	0-2	3.5-5.5	50-90	---	---	0
	2-6	3.5-6.0	0.5-2.0	1.0-8.0	0.6-6.0	0
	6-12	4.5-6.0	0.5-3.0	1.0-10	0.6-8.0	0
	12-23	3.5-5.5	0.5-3.0	1.0-10	0.6-8.0	0
	23-33	5.1-6.5	0.0-0.5	0.0-10	0.6-6.0	0
	33-53	5.6-7.3	0.0-0.5	2.0-10	1.0-8.0	0
	53-80	7.4-8.4	0.0-0.5	2.0-10	---	0
Ensley----------	0-5	6.1-7.8	75-90	100-180	---	0
	5-7	6.1-7.3	10-50	22-116	---	0
	7-19	6.6-7.8	0.5-1.0	1.0-14	---	0
	19-80	6.6-7.8	0.0-0.5	2.0-13	---	10-20
155A:						
Zeba, very stony	0-2	4.5-6.0	2.0-5.0	---	6.0-20	0
	2-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-13	4.5-6.0	0.5-3.0	4.0-13	---	0
	13-33	4.5-6.5	0.0-0.5	---	4.0-10	0
	33-80	---	---	---	---	0
Jacobsville, very stony-----	0-5	4.5-5.5	75-90	100-180	---	0
	5-9	4.5-6.0	0.5-2.0	---	3.0-12	0
	9-23	4.5-6.5	0.5-1.0	---	4.0-13	0
	23-36	5.1-6.5	0.0-0.5	2.0-13	---	0
	36-80	---	---	---	---	0
157B:						
Reade----------	0-4	3.5-5.5	50-90	---	---	0
	4-7	3.5-5.5	0.5-2.0	---	10-30	0
	7-9	4.5-5.5	2.0-5.0	---	10-30	0
	9-15	4.5-6.5	0.5-3.0	---	10-30	0
	15-20	6.6-7.8	0.0-0.5	2.0-10	---	0
	20-28	6.6-8.4	0.0-0.5	2.0-10	---	0
	28-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
157B:						
Nahma----------	0-11	6.1-7.3	75-90	100-180	---	0
	11-14	6.1-7.8	2.0-5.0	2.8-11	---	0
	14-17	6.1-7.8	2.0-5.0	2.8-11	---	0
	17-19	6.1-7.8	0.5-1.0	2.7-11	---	0
	19-24	6.6-8.4	0.0-0.5	2.6-11	---	10-30
	24-80	---	---	---	---	---
158C:						
Munising, dissected, stony----------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Abbaye, dissected, stony----------	0-2	4.5-5.5	50-90	---	---	0
	2-4	4.5-6.0	2.0-5.0	---	4.0-16	0
	4-13	4.5-6.0	0.5-2.0	---	1.0-10	0
	13-25	4.5-6.0	0.5-3.0	3.0-12	---	0
	25-32	4.5-6.0	0.0-0.5	4.0-10	---	0
	32-80	---	---	---	---	0
160B:						
Paquin----------	0-2	3.5-5.0	50-90	---	---	0
	2-12	3.5-5.5	0.5-2.0	---	3.0-5.0	0
	12-14	3.5-5.5	2.0-5.0	---	1.0-4.0	0
	14-17	3.5-5.5	1.0-5.0	---	1.0-2.0	0
	17-27	3.5-5.5	1.0-5.0	---	1.0-2.0	0
	27-34	4.5-6.0	0.2-1.0	---	1.0-2.0	0
	34-80	4.5-6.5	0.0-0.5	3.0-5.0	---	0
Finch----------	0-1	3.5-5.6	50-90	---	---	0
	1-11	3.5-6.0	0.5-2.0	---	0.0-4.0	0
	11-42	3.5-6.0	0.5-3.0	---	2.0-8.0	0
	42-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
161B:						
Yellowdog, stony	0-2	4.5-5.5	50-90	---	---	0
	2-32	4.5-6.0	0.5-1.0	---	1.0-4.0	0
	32-80	---	---	---	---	0
Buckroe, stony--	0-2	4.5-5.5	50-90	---	---	0
	2-4	3.5-6.0	0.5-1.0	---	1.0-8.0	0
	4-15	3.5-6.0	0.5-1.0	---	1.0-4.0	0
	15-80	---	---	---	---	0
165B:						
Chocolay, very stony----------	0-2	3.5-5.5	50-90	---	---	0
	2-3	3.5-5.5	2.0-5.0	---	6.0-18	0
	3-8	3.5-5.5	0.5-2.0	---	2.0-10	0
	8-14	3.5-5.5	2.0-5.0	---	6.0-18	0
	14-27	4.5-5.5	0.5-3.0	---	---	0
	27-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
165B:						
Waiska, very stony----------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	4-8	3.5-6.0	2.0-5.0	---	4.0-12	0
	8-18	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	18-80	5.1-6.0	0.0-0.5	---	0.0-3.0	0
166:						
Skandia---------	0-4	3.5-4.4	85-95	---	100-180	0
	4-26	3.5-4.4	80-95	---	100-180	0
	26-31	---	---	---	---	0
	31-80	---	---	---	---	0
167:						
Skandia, stony--	0-4	3.5-4.4	85-95	---	100-180	0
	4-26	3.5-4.4	80-95	---	100-180	0
	26-31	---	---	---	---	0
	31-80	---	---	---	---	0
Jacobsville, stony----------	0-5	4.5-5.5	75-90	100-180	---	0
	5-9	4.5-6.0	0.5-2.0	---	3.0-12	0
	9-23	4.5-6.5	0.5-1.0	---	4.0-13	0
	23-36	5.1-6.5	0.0-0.5	2.0-13	---	0
	36-80	---	---	---	---	0
170B:						
Chocolay, very stony----------	0-2	3.5-5.5	50-90	---	---	0
	2-3	3.5-5.5	2.0-5.0	---	6.0-18	0
	3-8	3.5-5.5	0.5-2.0	---	2.0-10	0
	8-14	3.5-5.5	2.0-5.0	---	6.0-18	0
	14-27	4.5-5.5	0.5-3.0	---	---	0
	27-80	---	---	---	---	0
171B:						
Paavola, very stony----------	0-2	4.5-6.0	50-90	---	---	0
	2-6	4.5-6.0	2.0-5.0	---	4.0-16	0
	6-15	4.5-6.0	2.0-5.0	---	4.0-12	0
	15-31	4.5-6.0	0.5-3.0	1.0-6.0	---	0
	31-59	4.5-6.0	0.0-0.5	---	4.0-12	0
	59-80	5.1-6.5	0.0-0.5	2.0-10	---	0
172D:						
Buckroe, very bouldery-------	0-2	4.5-5.5	50-90	---	---	0
	2-4	3.5-6.0	0.5-1.0	---	1.0-8.0	0
	4-15	3.5-6.0	0.5-1.0	---	1.0-4.0	0
	15-80	---	---	---	---	0
Rock outcrop.						
172F:						
Buckroe, very bouldery-------	0-2	4.5-5.5	50-90	---	---	0
	2-4	3.5-6.0	0.5-1.0	---	1.0-8.0	0
	4-15	3.5-6.0	0.5-1.0	---	1.0-4.0	0
	15-80	---	---	---	---	0
Rock outcrop.						

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
176B:						
Croswell--------	0-2	4.5-5.0	50-90	---	---	0
	2-6	3.5-6.0	0.1-1.0	---	0.2-7.0	0
	6-15	4.5-6.0	0.5-3.0	---	1.0-12	0
	15-22	5.1-6.5	0.0-0.5	0.0-7.0	---	0
	22-80	5.1-6.5	0.0-0.5	0.0-7.0	---	0
Kinross---------	0-3	3.4-5.0	75-90	---	100-180	0
	3-14	3.6-5.0	0.5-2.0	---	1.0-10	0
	14-22	3.6-6.0	2.0-5.0	---	1.0-10	0
	22-35	3.6-6.0	0.5-3.0	---	1.0-10	0
	35-80	4.5-6.5	0.0-0.5	---	1.0-2.0	0
181E:						
Frohling, dissected, stony----------	0-1	3.5-5.5	50-90	---	---	0
	1-2	4.5-5.5	2.0-5.0	---	6.0-18	0
	2-7	4.5-5.5	0.5-2.0	---	3.0-12	0
	7-9	4.5-5.5	2.0-5.0	---	6.0-20	0
	9-16	4.5-5.5	0.5-3.0	---	6.0-18	0
	16-34	5.1-6.0	0.0-0.5	---	1.0-4.0	0
	34-80	5.1-6.0	0.0-0.5	---	2.0-10	0
Tokiahok, dissected, stony----------	0-2	4.5-5.5	50-90	---	---	0
	2-11	4.5-5.5	0.5-2.0	---	1.0-7.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-16	0
	15-24	4.5-5.5	0.5-3.0	---	1.0-12	0
	24-59	4.5-6.5	0.0-0.5	1.0-10	---	0
	59-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
185B:						
McMaster--------	0-2	4.5-5.5	50-90	100-180	---	0
	2-4	4.5-5.5	2.0-5.0	---	6.0-18	0
	4-8	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	8-11	4.5-6.0	2.0-5.0	---	4.0-20	0
	11-24	6.1-7.3	0.5-3.0	1.0-10	---	0
	24-39	7.4-8.4	0.0-0.5	0.0-4.0	---	10-25
	39-80	7.3-8.4	0.0-0.5	0.0-4.0	---	10-25
186B:						
Chatham, stony--	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	4.0-14	---	0
	6-20	5.1-6.0	0.5-3.0	---	1.0-10	0
	20-39	5.1-6.0	0.5-3.0	1.0-10	---	0
	39-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
186D:						
Chatham, stony--	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	4.0-14	---	0
	6-20	5.1-6.0	0.5-3.0	---	1.0-10	0
	20-39	5.1-6.0	0.5-3.0	1.0-10	---	0
	39-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
187B:						
Reade----------	0-4	3.5-5.5	50-90	---	---	0
	4-7	3.5-5.5	0.5-2.0	---	10-30	0
	7-9	4.5-5.5	2.0-5.0	---	10-30	0
	9-15	4.5-6.5	0.5-3.0	---	10-30	0
	15-20	6.6-7.8	0.0-0.5	2.0-10	---	0
	20-28	6.6-8.4	0.0-0.5	2.0-10	---	0
	28-80	---	---	---	---	0
188B:						
Eben, stony-----	0-6	6.6-7.8	2.0-5.0	8.0-20	---	0
	6-22	6.6-7.8	0.5-1.0	3.0-12	---	0
	22-25	6.6-7.8	0.5-1.0	3.0-10	---	0
	25-35	7.9-9.0	0.0-0.5	0.0-9.0	---	10-25
	35-80	7.9-9.0	0.0-0.5	1.0-5.0	---	10-30
188D:						
Eben, stony-----	0-6	6.6-7.8	2.0-5.0	8.0-20	---	0
	6-22	6.6-7.8	0.5-1.0	3.0-12	---	0
	22-25	6.6-7.8	0.5-1.0	3.0-10	---	0
	25-35	7.9-9.0	0.0-0.5	0.0-9.0	---	10-25
	35-80	7.9-9.0	0.0-0.5	1.0-5.0	---	10-30
188E:						
Eben, stony-----	0-6	6.6-7.8	2.0-5.0	8.0-20	---	0
	6-22	6.6-7.8	0.5-1.0	3.0-12	---	0
	22-25	6.6-7.8	0.5-1.0	3.0-10	---	0
	25-35	7.9-9.0	0.0-0.5	0.0-9.0	---	10-25
	35-80	7.9-9.0	0.0-0.5	1.0-5.0	---	10-30
191B:						
Ruse----------	0-7	6.1-7.8	10-30	20-72	---	0
	7-11	6.1-8.4	2.0-5.0	4.0-22	---	10-30
	11-15	6.1-8.4	0.5-1.0	1.0-14	---	10-30
	15-80	---	---	---	---	---
Ensign----------	0-1	6.1-7.8	50-90	65-96	---	0
	1-5	6.1-7.8	2.0-5.0	4.0-11	---	0
	5-8	6.1-7.8	0.5-3.0	3.8-11	---	0
	8-15	6.1-8.4	0.5-1.0	3.8-10	---	0
	15-80	---	---	---	---	0
197B:						
Shoepac---------	0-2	3.5-5.5	50-90	---	---	0
	2-6	3.5-6.0	0.5-2.0	1.0-8.0	0.6-6.0	0
	6-12	4.5-6.0	0.5-3.0	1.0-10	0.6-8.0	0
	12-23	3.5-5.5	0.5-3.0	1.0-10	0.6-8.0	0
	23-33	5.1-6.5	0.0-0.5	0.0-10	0.6-6.0	0
	33-53	5.6-7.3	0.0-0.5	2.0-10	1.0-8.0	0
	53-80	7.4-8.4	0.0-0.5	2.0-10	---	0
Trenary---------	0-2	4.5-6.5	2.0-5.0	4.0-16	---	0
	2-6	4.5-6.5	0.5-2.0	1.0-12	---	0
	6-12	4.5-6.0	2.0-5.0	---	2.0-16	0
	12-17	4.5-5.5	0.5-3.0	---	2.0-16	0
	17-26	5.1-6.5	0.5-2.0	---	1.0-10	0
	26-37	5.1-7.8	0.0-0.5	4.0-12	---	0
	37-80	6.6-8.4	0.0-0.5	2.0-9.0	---	10-30

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
198B:						
Shoepac---------	0-2	3.5-5.5	50-90	---	---	0
	2-6	3.5-6.0	0.5-2.0	1.0-8.0	0.6-6.0	0
	6-12	4.5-6.0	0.5-3.0	1.0-10	0.6-8.0	0
	12-23	3.5-5.5	0.5-3.0	1.0-10	0.6-8.0	0
	23-33	5.1-6.5	0.0-0.5	0.0-10	0.6-6.0	0
	33-53	5.6-7.3	0.0-0.5	2.0-10	1.0-8.0	0
	53-80	7.4-8.4	0.0-0.5	2.0-10	---	0
Reade----------	0-4	3.5-5.5	50-90	---	---	0
	4-7	3.5-5.5	0.5-2.0	---	10-30	0
	7-9	4.5-5.5	2.0-5.0	---	10-30	0
	9-15	4.5-6.5	0.5-3.0	---	10-30	0
	15-20	6.6-7.8	0.0-0.5	2.0-10	---	0
	20-28	6.6-8.4	0.0-0.5	2.0-10	---	0
	28-80	---	---	---	---	0
200A:						
Charlevoix------	0-2	4.5-6.0	50-90	---	---	0
	2-5	3.5-6.0	0.5-2.0	1.0-7.0	0.6-5.0	0
	5-7	3.5-6.0	0.5-3.0	1.5-9.0	0.8-7.0	0
	7-12	3.5-6.0	0.5-3.0	1.0-9.0	0.6-7.0	0
	12-16	3.5-6.0	0.0-0.5	1.0-9.0	0.6-7.0	0
	16-27	5.1-7.3	0.0-0.5	4.0-13	2.0-10	0
	27-80	7.4-8.4	0.0-0.5	2.0-13	---	10-30
Ensley----------	0-5	6.1-7.8	50-90	100-180	---	0
	5-7	6.1-7.3	10-50	22-116	---	0
	7-19	6.6-7.8	0.5-1.0	1.0-14	---	0
	19-80	6.6-7.8	0.0-0.5	2.0-13	---	10-20
202B:						
Sauxhead, very stony----------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	4-14	3.5-5.5	0.5-1.0	---	1.0-5.0	0
	14-17	---	---	---	---	0
	17-80	---	---	---	---	0
206B:						
Traunik---------	0-1	3.5-5.5	50-90	---	---	0
	1-4	4.5-6.0	0.5-2.0	---	3.0-12	0
	4-11	4.5-6.0	0.5-3.0	---	3.0-14	0
	11-24	5.1-6.0	0.5-3.0	1.0-8.0	---	0
	24-31	6.1-7.8	0.0-0.5	0.0-1.0	---	0
	31-80	6.6-7.8	0.0-0.5	0.0-1.0	---	10-25
206D:						
Traunik---------	0-1	3.5-5.5	50-90	---	---	0
	1-4	4.5-6.0	0.5-2.0	---	3.0-12	0
	4-11	4.5-6.0	0.5-3.0	---	3.0-14	0
	11-24	5.1-6.0	0.5-3.0	1.0-8.0	---	0
	24-31	6.1-7.8	0.0-0.5	0.0-1.0	---	0
	31-80	6.6-7.8	0.0-0.5	0.0-1.0	---	10-25

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
211B:						
Munising--------	0-1	4.5-5.5	50-90	---	---	0
	1-2	4.5-6.0	2.0-5.0	---	4.5-6.0	0
	2-10	4.5-6.0	0.5-2.0	---	1.0-8.0	0
	10-14	4.5-6.0	2.0-5.0	---	6.0-16	0
	14-22	4.5-6.0	0.5-3.0	---	3.0-12	0
	22-49	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	49-63	4.5-6.0	0.0-0.5	---	6.0-21	0
	63-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Abbaye----------	0-2	4.5-5.5	50-90	---	---	0
	2-4	4.5-6.0	2.0-5.0	---	4.0-16	0
	4-13	4.5-6.0	0.5-2.0	---	1.0-10	0
	13-25	4.5-6.0	0.5-3.0	3.0-12	---	0
	25-32	4.5-6.0	0.0-0.5	4.0-10	---	0
	32-80	---	---	---	---	0
214B:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
214D:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
214E:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
221B:						
Jeske----------	0-3	3.5-5.5	50-90	---	---	0
	3-21	4.5-6.0	0.0-0.5	0.0-4.0	---	0
	21-31	4.5-6.0	---	---	---	0
	31-80	4.5-6.0	---	---	---	0
Au Train--------	0-2	3.5-5.0	50-90	---	100-180	0
	2-9	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	9-14	3.5-5.5	2.0-5.0	---	4.0-10	0
	14-32	---	---	---	---	0
	32-80	---	---	---	---	0
Gongeau---------	0-5	3.5-5.0	75-90	---	---	0
	5-7	4.5-6.0	10-30	---	20-60	0
	7-18	4.5-6.0	0.0-0.5	0.0-1.0	---	0
	18-29	4.5-6.0	---	---	---	0
	29-80	4.5-6.0	---	---	---	0
225B:						
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	1.0-5.0	0
	8-10	3.5-5.5	2.0-5.0	---	4.0-15	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0
225D:						
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	1.0-5.0	0
	8-10	3.5-5.5	2.0-5.0	---	4.0-15	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0
226B:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	0.0-8.1	0
	8-10	3.5-5.5	2.0-5.0	---	0.4-8.5	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0
226D:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	0.0-8.1	0
	8-10	3.5-5.5	2.0-5.0	---	0.4-8.5	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
226E:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	0.0-8.1	0
	8-10	3.5-5.5	2.0-5.0	---	0.4-8.5	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0
226F:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Cusino----------	0-2	3.5-5.0	50-90	---	100-180	0
	2-8	3.5-5.0	0.5-2.0	---	0.0-8.1	0
	8-10	3.5-5.5	2.0-5.0	---	0.4-8.5	0
	10-17	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	17-80	4.5-6.0	0.0-0.5	---	---	0
227A:						
Halfaday--------	0-2	4.5-5.0	50-90	---	---	0
	2-9	3.5-6.0	0.5-2.0	---	0.0-4.8	0
	9-10	3.5-6.0	2.0-5.0	---	0.1-4.0	0
	10-35	3.5-6.0	0.5-3.0	---	0.1-2.6	0
	35-80	5.1-6.5	0.0-0.5	0.0-1.7	---	0
232B:						
Shelldrake------	0-1	3.5-5.5	50-90	---	---	0
	1-3	3.5-5.5	50-90	---	---	0
	3-4	3.5-6.0	2.0-5.0	---	4.0-10	0
	4-80	3.5-6.0	0.0-0.5	---	0.0-1.0	0
233B:						
Abbaye, very stony----------	0-2	4.5-5.5	50-90	---	---	0
	2-4	4.5-6.0	2.0-5.0	---	4.0-16	0
	4-13	4.5-6.0	0.5-2.0	---	1.0-10	0
	13-25	4.5-6.0	0.5-3.0	3.0-12	---	0
	25-32	4.5-6.0	0.0-0.5	4.0-10	---	0
	32-80	---	---	---	---	0
Zeba, very stony	0-2	4.5-6.0	2.0-5.0	---	6.0-20	0
	2-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-13	4.5-6.0	0.5-3.0	4.0-13	---	0
	13-33	4.5-6.5	0.0-0.5	---	4.0-10	0
	33-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
234A:						
Levasseur, very stony----------	0-1	3.5-5.0	50-90	---	---	0
	1-3	3.5-5.0	50-90	---	---	0
	3-8	3.5-5.0	0.5-2.0	---	0.1-1.3	0
	8-13	3.5-5.5	0.5-2.0	---	0.1-1.3	0
	13-80	---	---	---	---	0
Burt, very stony	0-1	4.5-6.0	50-90	---	---	0
	1-5	4.5-6.5	10-20	20-60	---	0
	5-19	4.5-6.5	0.0-0.5	0.0-6.0	---	0
	19-80	---	---	---	---	0
235B:						
Sauxhead, very stony----------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	4-14	3.5-5.5	0.5-1.0	---	1.0-5.0	0
	14-17	---	---	---	---	0
	17-80	---	---	---	---	0
Burt, very stony	0-1	4.5-6.0	50-90	---	---	0
	1-5	4.5-6.5	10-20	20-60	---	0
	5-19	4.5-6.5	0.0-0.5	0.0-6.0	---	0
	19-80	---	---	---	---	0
236B:						
Waiska, extremely bouldery-------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	4-8	3.5-6.0	2.0-5.0	---	4.0-12	0
	8-18	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	18-80	5.1-6.0	0.0-0.5	---	0.0-3.0	0
236D:						
Waiska, extremely bouldery-------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	1.0-6.0	0
	4-8	3.5-6.0	2.0-5.0	---	4.0-12	0
	8-18	3.5-6.0	0.5-3.0	---	1.0-8.0	0
	18-80	5.1-6.0	0.0-0.5	---	0.0-3.0	0
237B:						
Chatham---------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	4.0-14	---	0
	6-20	5.1-6.0	0.5-3.0	---	1.0-10	0
	20-39	5.1-6.0	0.5-3.0	1.0-10	---	0
	39-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Davies----------	0-4	5.1-6.0	75-90	---	---	0
	4-11	5.1-6.5	0.5-1.0	1.0-6.0	---	0
	11-80	5.6-7.3	0.0-0.5	0.0-1.0	---	0
239B:						
Longrie---------	0-4	5.1-7.3	2.0-5.0	7.0-17	---	0
	4-9	5.1-7.3	0.5-2.0	2.0-6.0	---	0
	9-11	5.1-6.0	2.0-5.0	6.0-16	---	0
	11-27	5.1-6.0	0.5-3.0	3.0-13	---	0
	27-31	6.6-8.4	0.0-0.5	4.0-14	---	10-30
	31-80	---	---	---	---	---

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
239B:						
Shingleton------	0-1	4.5-6.0	1.0-3.0	---	0.8-7.5	0
	1-7	4.5-6.0	0.5-2.0	---	0.8-7.5	0
	7-8	4.5-6.0	2.0-5.0	---	3.0-12	0
	8-11	4.5-6.0	0.5-3.0	---	0.8-9.0	0
	11-80	---	---	---	---	0
240F:						
Trout Bay-------	0-19	5.1-6.0	75-90	100-180	---	0
	19-34	---	---	---	---	0
	34-80	---	---	---	---	0
Gongeau---------	0-5	3.5-5.0	75-90	---	---	0
	5-7	4.5-6.0	10-30	---	20-60	0
	7-18	4.5-6.0	0.0-0.5	0.0-1.0	---	0
	18-29	4.5-6.0	---	---	---	0
	29-80	4.5-6.0	---	---	---	0
Shingleton------	0-1	4.5-6.0	1.0-3.0	---	0.8-7.5	0
	1-7	4.5-6.0	0.5-2.0	---	0.8-7.5	0
	7-8	4.5-6.0	2.0-5.0	---	3.0-12	0
	8-11	4.5-6.0	0.5-3.0	---	0.8-9.0	0
	11-80	---	---	---	---	0
Rock outcrop.						
241:						
Cathro----------	0-46	4.5-6.5	75-90	100-180	---	0
	46-80	5.6-6.5	0.0-0.5	2.0-12	---	0
Gay----------	0-4	5.1-6.0	75-90	---	100-180	0
	4-7	5.1-6.5	2.0-8.0	---	4.0-65	0
	7-11	5.1-6.5	0.5-2.0	2.0-10	---	0
	11-16	5.1-6.5	0.5-1.0	3.0-22	---	0
	16-80	5.6-7.3	0.0-0.5	3.0-8.0	---	0
242B:						
Kalkaska, severely burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
242D:						
Kalkaska, severely burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
242F:						
Kalkaska, severely burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
243:						
Markey----------	0-3	4.5-6.0	85-95	---	100-180	0
	3-20	4.5-6.5	80-95	100-180	---	0
	20-80	4.5-7.8	0.0-0.5	0.0-0.5	---	0
245B:						
Trout Bay-------	0-19	5.1-6.0	75-90	100-180	---	0
	19-34	---	---	---	---	0
	34-80	---	---	---	---	0
Lupton----------	0-4	4.5-7.8	85-95	100-180	---	0
	4-80	4.5-7.8	80-95	100-180	---	0
Gongeau---------	0-5	3.5-5.0	75-90	---	---	0
	5-7	4.5-6.0	10-30	---	20-60	0
	7-18	4.5-6.0	0.0-0.5	0.0-1.0	---	0
	18-29	4.5-6.0	---	---	---	0
	29-80	4.5-6.0	---	---	---	0
246B:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
246D:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
246E:						
Garlic----------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	0.1-4.0	0
	9-11	3.5-5.5	2.0-5.0	---	0.1-4.0	0
	11-20	3.5-5.5	0.5-3.0	---	0.1-4.0	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0
248B:						
Escanaba--------	0-1	5.1-6.0	50-90	---	---	0
	1-3	5.1-6.0	2.0-5.0	4.0-12	---	0
	3-6	5.1-6.0	0.5-2.0	4.0-12	---	0
	6-26	5.1-6.0	0.5-3.0	1.0-10	---	0
	26-35	6.1-7.3	0.0-0.5	3.0-9.0	---	0
	35-42	6.1-7.3	0.0-0.5	6.0-12	---	0
	42-80	6.6-7.8	0.0-0.5	3.0-9.0	---	10-30
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
248D:						
Escanaba--------	0-1	5.1-6.0	50-90	---	---	0
	1-3	5.1-6.0	2.0-5.0	4.0-12	---	0
	3-6	5.1-6.0	0.5-2.0	4.0-12	---	0
	6-26	5.1-6.0	0.5-3.0	1.0-10	---	0
	26-35	6.1-7.3	0.0-0.5	3.0-9.0	---	0
	35-42	6.1-7.3	0.0-0.5	6.0-12	---	0
	42-80	6.6-7.8	0.0-0.5	3.0-9.0	---	10-30
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30
248E:						
Escanaba--------	0-1	5.1-6.0	50-90	---	---	0
	1-3	5.1-6.0	2.0-5.0	4.0-12	---	0
	3-6	5.1-6.0	0.5-2.0	4.0-12	---	0
	6-26	5.1-6.0	0.5-3.0	1.0-10	---	0
	26-35	6.1-7.3	0.0-0.5	3.0-9.0	---	0
	35-42	6.1-7.3	0.0-0.5	6.0-12	---	0
	42-80	6.6-7.8	0.0-0.5	3.0-9.0	---	10-30
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30
249B:						
Sauxhead--------	0-1	3.5-5.5	50-90	---	---	0
	1-4	3.5-5.5	0.5-2.0	---	1.0-6.0	0
	4-14	3.5-5.5	0.5-1.0	---	1.0-5.0	0
	14-17	---	---	---	---	0
	17-80	---	---	---	---	0
Skandia---------	0-4	3.5-4.4	85-95	---	100-180	0
	4-26	3.5-4.4	80-95	---	100-180	0
	26-31	---	---	---	---	0
	31-80	---	---	---	---	0
250B:						
Chocolay, extremely stony	0-2	3.5-5.5	50-90	---	---	0
	2-3	3.5-5.5	2.0-5.0	---	6.0-18	0
	3-8	3.5-5.5	0.5-2.0	---	2.0-10	0
	8-14	3.5-5.5	2.0-5.0	---	6.0-18	0
	14-27	4.5-5.5	0.5-3.0	---	---	0
	27-80	---	---	---	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
250B:						
Jacobsville, extremely stony	0-5	4.5-5.5	75-90	100-180	---	0
	5-9	4.5-6.0	0.5-2.0	---	3.0-12	0
	9-23	4.5-6.5	0.5-1.0	---	4.0-13	0
	23-36	5.1-6.5	0.0-0.5	2.0-13	---	0
	36-80	---	---	---	---	0
251B:						
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30
251D:						
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30
252A:						
Finch----------	0-1	3.5-5.6	50-90	---	---	0
	1-11	3.5-6.0	0.5-2.0	---	0.0-4.0	0
	11-42	3.5-6.0	0.5-3.0	---	2.0-8.0	0
	42-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
Kinross---------	0-3	3.4-5.0	75-90	---	100-180	0
	3-14	3.6-5.0	0.5-2.0	---	1.0-10	0
	14-22	3.6-6.0	2.0-5.0	---	1.0-10	0
	22-35	3.6-6.0	0.5-3.0	---	1.0-10	0
	35-80	4.5-6.5	0.0-0.5	---	1.0-2.0	0
254C:						
Kalkaska, dissected------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
254E:						
Kalkaska, dissected------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
254F:						
Kalkaska, dissected------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Blue Lake, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
255D:						
Wallace---------	0-2	3.5-5.5	50-90	---	---	0
	2-10	3.5-5.5	0.5-2.0	---	2.0-4.0	0
	10-11	4.0-5.5	2.0-5.0	---	1.0-4.0	0
	11-21	4.5-5.5	2.0-5.0	---	1.0-4.0	0
	21-26	4.5-5.5	0.5-3.0	---	1.0-4.0	0
	26-59	4.5-6.0	0.0-0.5	1.0-4.0	---	0
	59-80	4.5-6.5	0.0-0.5	1.0-4.0	---	0
256B:						
Whitewash-------	0-3	4.5-6.0	50-90	---	---	0
	3-7	5.1-6.5	0.0-0.5	0.0-7.4	---	0
	7-9	3.5-5.5	1.0-3.0	---	2.1-8.1	0
	9-80	4.5-7.3	0.0-0.5	0.0-4.0	---	0
266A:						
Spot----------	0-2	3.5-5.5	85-95	---	100-180	0
	2-8	3.5-6.0	0.1-1.0	---	0.2-8.0	0
	8-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-18	3.5-6.0	0.5-3.0	---	1.0-12	0
	18-80	3.5-6.5	0.0-0.5	---	0.0-7.0	0
Finch----------	0-1	3.5-5.6	50-90	---	---	0
	1-11	3.5-6.0	0.5-2.0	---	0.0-4.0	0
	11-42	3.5-6.0	0.5-3.0	---	2.0-8.0	0
	42-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
267A:						
Finch----------	0-1	3.5-5.6	50-90	---	---	0
	1-11	3.5-6.0	0.5-2.0	---	0.0-4.0	0
	11-42	3.5-6.0	0.5-3.0	---	2.0-8.0	0
	42-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
268C:						
Munising, calcareous substratum, dissected------	0-1	3.5-5.5	50-90	---	---	0
	1-3	4.5-6.0	0.5-2.0	---	3.0-12	0
	3-6	4.5-6.0	2.0-5.0	---	6.0-20	0
	6-23	4.5-6.0	0.5-3.0	---	3.0-14	0
	23-38	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	38-50	5.1-6.5	0.0-0.5	2.0-10	---	0
	50-63	5.0-6.0	0.0-0.5	2.0-12	---	0
	63-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Frohling, calcareous substratum, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-5.5	0.5-2.0	---	0.7-9.0	0
	5-24	4.5-5.5	0.5-3.0	---	0.4-2.2	0
	24-73	5.1-6.0	0.0-0.5	2.1-6.4	---	0
	73-80	7.4-8.4	0.0-0.5	4.1-6.4	---	10-30
Cookson, dissected------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
269E:						
Frohling, calcareous substratum, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-5.5	0.5-2.0	---	0.7-9.0	0
	5-24	4.5-5.5	0.5-3.0	---	0.4-2.2	0
	24-73	5.1-6.0	0.0-0.5	2.1-6.4	---	0
	73-80	7.4-8.4	0.0-0.5	4.1-6.4	---	10-30
Garlic, dissected------	0-2	3.5-5.6	50-90	---	---	0
	2-9	3.5-5.5	0.5-2.0	---	---	0
	9-11	3.5-5.5	2.0-5.0	---	---	0
	11-20	3.5-5.5	0.5-3.0	---	---	0
	20-29	5.1-6.0	0.0-0.5	0.5-4.0	---	0
	29-80	5.1-6.0	0.0-0.5	0.5-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
269E:						
Cookson, dissected------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
272C:						
Munising, calcareous substratum, dissected------	0-1	3.5-5.5	50-90	---	---	0
	1-3	4.5-6.0	0.5-2.0	---	3.0-12	0
	3-6	4.5-6.0	2.0-5.0	---	6.0-20	0
	6-23	4.5-6.0	0.5-3.0	---	3.0-14	0
	23-38	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	38-50	5.1-6.5	0.0-0.5	2.0-10	---	0
	50-63	5.0-6.0	0.0-0.5	2.0-12	---	0
	63-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Yalmer, calcareous substratum, dissected------	0-1	3.5-5.5	50-90	---	---	0
	1-2	3.5-5.5	2.0-5.0	---	4.0-18	0
	2-5	3.5-5.5	0.5-2.0	---	1.0-8.0	0
	5-16	4.5-6.0	2.0-5.0	---	4.0-16	0
	16-28	4.5-6.0	0.5-3.0	1.0-6.0	---	0
	28-36	5.1-6.5	0.0-0.5	1.0-5.0	---	0
	36-62	5.1-6.5	0.0-0.5	2.0-10	---	0
	62-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30
Frohling, calcareous substratum, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-5.5	0.5-2.0	---	0.7-9.0	0
	5-24	4.5-5.5	0.5-3.0	---	0.4-2.2	0
	24-73	5.1-6.0	0.0-0.5	2.1-6.4	---	0
	73-80	7.4-8.4	0.0-0.5	4.1-6.4	---	10-30
275B:						
Munising, calcareous substratum-----	0-1	3.5-5.5	50-90	---	---	0
	1-3	4.5-6.0	0.5-2.0	---	3.0-12	0
	3-6	4.5-6.0	2.0-5.0	---	6.0-20	0
	6-23	4.5-6.0	0.5-3.0	---	3.0-14	0
	23-38	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	38-50	5.1-6.5	0.0-0.5	2.0-10	---	0
	50-63	5.0-6.0	0.0-0.5	2.0-12	---	0
	63-80	7.4-8.4	0.0-0.5	1.0-6.0	---	10-30

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
275B:						
Cookson---------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
281E:						
Mongo, dissected	0-1	4.5-5.5	50-90	---	---	0
	1-6	4.5-5.5	2.0-5.0	---	6.0-16	0
	6-22	4.5-5.5	0.0-0.5	---	3.0-32	0
	22-38	6.1-7.3	0.0-0.5	16-48	---	0
	38-80	7.4-8.4	0.0-0.5	3.0-30	---	10-30
282B:						
Furlong---------	0-1	4.0-5.5	50-90	---	---	0
	1-2	4.0-5.5	2.0-5.0	---	4.0-13	0
	2-5	4.0-5.5	0.5-2.0	---	0.0-8.0	0
	5-7	4.0-5.5	2.0-5.0	---	4.0-16	0
	7-19	4.0-5.5	0.5-3.0	---	1.0-12	0
	19-22	6.6-8.0	0.0-0.5	0.0-4.0	---	0
	22-80	---	---	---	---	0
Shingleton------	0-1	4.5-6.0	1.0-3.0	---	0.8-7.5	0
	1-7	4.5-6.0	0.5-2.0	---	0.8-7.5	0
	7-8	4.5-6.0	2.0-5.0	---	3.0-12	0
	8-11	4.5-6.0	0.5-3.0	---	0.8-9.0	0
	11-80	---	---	---	---	0
282D:						
Furlong---------	0-1	4.0-5.5	50-90	---	---	0
	1-2	4.0-5.5	2.0-5.0	---	4.0-13	0
	2-5	4.0-5.5	0.5-2.0	---	0.0-8.0	0
	5-7	4.0-5.5	2.0-5.0	---	4.0-16	0
	7-19	4.0-5.5	0.5-3.0	---	1.0-12	0
	19-22	6.6-8.0	0.0-0.5	0.0-4.0	---	0
	22-80	---	---	---	---	0
Shingleton------	0-1	4.5-6.0	1.0-3.0	---	0.8-7.5	0
	1-7	4.5-6.0	0.5-2.0	---	0.8-7.5	0
	7-8	4.5-6.0	2.0-5.0	---	3.0-12	0
	8-11	4.5-6.0	0.5-3.0	---	0.8-9.0	0
	11-80	---	---	---	---	0
284B:						
Steuben---------	0-2	4.5-6.0	50-90	---	---	0
	2-8	4.5-6.0	0.5-2.0	---	7.0-19	0
	8-16	4.5-6.0	2.0-5.0	---	7.0-19	0
	16-21	4.5-6.0	0.5-3.0	---	7.0-19	0
	21-40	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-45	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	45-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
284B:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
284D:						
Steuben---------	0-2	4.5-6.0	50-90	---	---	0
	2-8	4.5-6.0	0.5-2.0	---	7.0-19	0
	8-16	4.5-6.0	2.0-5.0	---	7.0-19	0
	16-21	4.5-6.0	0.5-3.0	---	7.0-19	0
	21-40	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-45	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	45-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
284E:						
Steuben---------	0-2	4.5-6.0	50-90	---	---	0
	2-8	4.5-6.0	0.5-2.0	---	7.0-19	0
	8-16	4.5-6.0	2.0-5.0	---	7.0-19	0
	16-21	4.5-6.0	0.5-3.0	---	7.0-19	0
	21-40	4.5-6.0	0.0-0.5	---	2.0-8.0	0
	40-45	5.1-6.0	0.0-0.5	1.0-4.0	---	0
	45-80	5.1-6.5	0.0-0.5	0.0-1.0	---	0
Blue Lake-------	0-2	4.5-5.5	50-90	---	---	0
	2-7	4.5-6.0	0.5-2.0	---	1.0-10	0
	7-9	4.5-6.0	2.0-5.0	---	4.0-10	0
	9-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
285B:						
Halfaday--------	0-2	4.5-5.0	50-90	---	---	0
	2-9	3.5-6.0	0.5-2.0	---	0.0-4.8	0
	9-10	3.5-6.0	2.0-5.0	---	0.1-4.0	0
	10-35	3.5-6.0	0.5-3.0	---	0.1-2.6	0
	35-80	5.1-6.5	0.0-0.5	0.0-1.7	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
285B:						
Kinross---------	0-3	3.4-5.0	75-90	---	100-180	0
	3-14	3.6-5.0	0.5-2.0	---	1.0-10	0
	14-22	3.6-6.0	2.0-5.0	---	1.0-10	0
	22-35	3.6-6.0	0.5-3.0	---	1.0-10	0
	35-80	4.5-6.5	0.0-0.5	---	1.0-2.0	0
286B:						
Greylock--------	0-1	5.1-6.0	50-90	---	---	0
	1-6	5.1-6.0	2.0-5.0	5.0-14	---	0
	6-7	5.1-6.0	0.5-2.0	2.0-8.0	---	0
	7-9	5.1-6.0	0.5-5.0	3.0-16	---	0
	9-19	5.1-6.0	0.5-5.0	3.0-16	---	0
	19-26	6.1-7.3	0.0-0.5	4.0-12	---	0
	26-34	6.1-7.3	0.0-0.5	4.0-12	---	0
	34-80	7.4-8.4	0.0-0.5	3.0-9.0	---	10-30
Cookson---------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
287B:						
McMaster--------	0-2	4.5-5.5	50-90	100-180	---	0
	2-4	4.5-5.5	2.0-5.0	---	6.0-18	0
	4-8	4.5-5.5	0.5-2.0	---	1.0-4.0	0
	8-11	4.5-6.0	2.0-5.0	---	4.0-20	0
	11-24	6.1-7.3	0.5-3.0	1.0-10	---	0
	24-39	7.4-8.4	0.0-0.5	0.0-4.0	---	10-25
	39-80	7.3-8.4	0.0-0.5	0.0-4.0	---	10-25
Davies----------	0-4	5.1-6.0	75-90	---	---	0
	4-11	5.1-6.5	0.5-1.0	1.0-6.0	---	0
	11-80	5.6-7.3	0.0-0.5	0.0-1.0	---	0
290A:						
Namur, very stony----------	0-3	6.1-7.8	2.0-5.0	6.0-18	---	0
	3-6	6.6-7.8	0.5-1.0	3.0-10	---	0
	6-80	---	---	---	---	0
Ruse, very stony	0-7	6.1-7.8	10-30	20-72	---	0
	7-11	6.1-8.4	2.0-5.0	4.0-22	---	10-30
	11-15	6.1-8.4	0.5-1.0	1.0-14	---	10-30
	15-80	---	---	---	---	---
292B:						
Mashek, sandy substratum-----	0-6	4.5-6.0	2.0-5.0	---	4.0-10	0
	6-11	5.1-6.0	0.5-3.0	---	1.0-12	0
	11-38	5.6-6.5	0.0-0.5	1.0-8.0	---	0
	38-63	6.6-8.4	0.0-0.5	4.0-8.0	---	0
	63-80	5.6-7.8	0.0-0.5	0.0-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
296D:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
McMillan--------	0-1	3.5-5.0	50-90	---	---	0
	1-4	3.5-5.0	2.0-5.0	---	1.0-4.0	0
	4-6	3.5-5.0	0.5-2.0	---	1.0-2.0	0
	6-9	3.5-5.0	2.0-5.0	---	1.0-4.0	0
	9-16	3.5-5.0	0.5-3.0	---	1.0-4.0	0
	16-22	3.5-5.0	0.5-3.0	---	1.0-2.0	0
	22-32	3.5-5.5	0.0-0.5	---	1.0-2.0	0
	32-80	3.5-5.5	0.0-0.5	---	1.0-2.0	0
296E:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
McMillan--------	0-1	3.5-5.0	50-90	---	---	0
	1-4	3.5-5.0	2.0-5.0	---	1.0-4.0	0
	4-6	3.5-5.0	0.5-2.0	---	1.0-2.0	0
	6-9	3.5-5.0	2.0-5.0	---	1.0-4.0	0
	9-16	3.5-5.0	0.5-3.0	---	1.0-4.0	0
	16-22	3.5-5.0	0.5-3.0	---	1.0-2.0	0
	22-32	3.5-5.5	0.0-0.5	---	1.0-2.0	0
	32-80	3.5-5.5	0.0-0.5	---	1.0-2.0	0
297B:						
Rubicon, severely burned	0-3	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	3-28	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	28-36	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	36-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
297D:						
Rubicon, severely burned	0-3	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	3-28	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	28-36	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	36-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
298B:						
Wurtsmith-------	0-1	3.5-6.0	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	0.0-2.0	0
	4-24	3.5-6.0	0.5-1.0	---	0.0-1.0	0
	24-80	3.5-6.0	0.0-0.5	---	0.0-1.0	0
Deford----------	0-4	4.5-6.0	75-90	---	75-135	0
	4-80	5.1-7.8	0.0-0.5	---	0.0-5.3	0
299F:						
Shelldrake------	0-1	3.5-5.5	50-90	---	---	0
	1-3	3.5-5.5	50-90	---	---	0
	3-4	3.5-6.0	2.0-5.0	---	4.0-10	0
	4-80	3.5-6.0	0.0-0.5	---	0.0-1.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
300F:						
Shelldrake------	0-1	3.5-5.5	50-90	---	---	0
	1-3	3.5-5.5	50-90	---	---	0
	3-4	3.5-6.0	2.0-5.0	---	4.0-10	0
	4-80	3.5-6.0	0.0-0.5	---	0.0-1.0	0
Dune land.						
301F:						
Cookson, dissected------	0-3	4.5-6.0	50-90	100-180	---	0
	3-7	4.5-6.0	0.1-2.0	0.2-15	---	0
	7-11	4.5-6.0	2.0-5.0	4.0-21	---	0
	11-16	4.5-6.0	0.5-3.4	1.0-18	---	0
	16-21	5.6-7.3	0.0-1.0	0.0-13	---	0
	21-31	6.6-7.8	0.0-1.0	2.0-13	---	0-30
	31-36	7.4-8.4	0.0-0.5	0.0-12	---	0-30
	36-80	---	---	---	---	---
Nykanen, dissected------	0-4	4.5-5.5	2.0-5.0	---	8.0-14	0
	4-14	4.5-5.5	0.5-5.0	---	8.0-14	0
	14-25	---	---	---	---	0
	25-80	---	---	---	---	0
302B:						
Dillingham------	0-1	3.5-5.0	50-90	---	80-170	0
	1-8	3.5-5.0	0.5-2.0	---	0.0-1.0	0
	8-11	3.5-5.0	2.0-5.0	---	0.0-1.0	0
	11-21	3.5-5.0	0.5-3.0	---	0.0-1.0	0
	21-31	3.5-5.5	0.0-0.5	---	0.0-1.0	0
	31-80	3.5-5.5	0.0-0.5	---	0.0-0.5	0
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
302D:						
Dillingham------	0-1	3.5-5.0	50-90	---	---	0
	1-8	3.5-5.0	0.5-2.0	---	0.0-1.0	0
	8-11	3.5-5.5	2.0-5.0	---	0.0-1.0	0
	11-21	3.5-5.5	0.5-3.0	---	0.0-1.0	0
	21-31	3.5-5.5	0.0-0.5	---	0.0-1.0	0
	31-80	3.5-5.9	0.0-0.5	---	0.0-0.5	0
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
302E:						
Dillingham------	0-1	3.5-5.0	50-90	---	---	0
	1-8	3.5-5.0	0.5-2.0	---	0.0-1.0	0
	8-11	3.5-5.5	2.0-5.0	---	0.0-1.0	0
	11-21	3.5-5.5	0.5-3.0	---	0.0-1.0	0
	21-31	3.5-5.5	0.0-0.5	---	0.0-1.0	0
	31-80	3.5-5.9	0.0-0.5	---	0.0-0.5	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
302E:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
302F:						
Dillingham------	0-1	3.5-5.0	50-90	---	---	0
	1-8	3.5-5.0	0.5-2.0	---	0.0-1.0	0
	8-11	3.5-5.5	2.0-5.0	---	0.0-1.0	0
	11-21	3.5-5.5	0.5-3.0	---	0.0-1.0	0
	21-31	3.5-5.5	0.0-0.5	---	0.0-1.0	0
	31-80	3.5-5.9	0.0-0.5	---	0.0-0.5	0
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
303B:						
Kiva----------	0-3	5.1-6.0	2.0-5.0	---	4.0-14	0
	3-6	5.1-6.0	0.5-2.0	---	1.0-6.0	0
	6-15	5.1-6.0	0.5-3.0	1.0-10	---	0
	15-23	5.1-6.5	0.5-3.0	1.0-3.0	---	0
	23-80	7.4-9.0	0.0-0.5	0.0-1.0	---	10-25
Trenary---------	0-2	4.5-6.5	2.0-5.0	4.0-16	---	0
	2-6	4.5-6.5	0.5-2.0	1.0-12	---	0
	6-12	4.5-6.0	2.0-5.0	---	2.0-16	0
	12-17	4.5-5.5	0.5-3.0	---	2.0-16	0
	17-26	5.1-6.5	0.5-2.0	---	1.0-10	0
	26-37	5.1-7.8	0.0-0.5	4.0-12	---	0
	37-80	6.6-8.4	0.0-0.5	2.0-9.0	---	10-30
303D:						
Kiva----------	0-3	5.1-6.0	2.0-5.0	---	4.0-14	0
	3-6	5.1-6.0	0.5-2.0	---	1.0-6.0	0
	6-15	5.1-6.0	0.5-3.0	1.0-10	---	0
	15-23	5.1-6.5	0.5-3.0	1.0-3.0	---	0
	23-80	7.4-9.0	0.0-0.5	0.0-1.0	---	10-25
Trenary---------	0-2	4.5-6.5	2.0-5.0	4.0-16	---	0
	2-6	4.5-6.5	0.5-2.0	1.0-12	---	0
	6-12	4.5-6.0	2.0-5.0	---	2.0-16	0
	12-17	4.5-5.5	0.5-3.0	---	2.0-16	0
	17-26	5.1-6.5	0.5-2.0	---	1.0-10	0
	26-37	5.1-7.8	0.0-0.5	4.0-12	---	0
	37-80	6.6-8.4	0.0-0.5	2.0-9.0	---	10-30
303E:						
Kiva----------	0-3	5.1-6.0	2.0-5.0	---	4.0-14	0
	3-6	5.1-6.0	0.5-2.0	---	1.0-6.0	0
	6-15	5.1-6.0	0.5-3.0	1.0-10	---	0
	15-23	5.1-6.5	0.5-3.0	1.0-3.0	---	0
	23-80	7.4-9.0	0.0-0.5	0.0-1.0	---	10-25

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
303E:						
Trenary---------	0-2	4.5-6.5	2.0-5.0	4.0-16	---	0
	2-6	4.5-6.5	0.5-2.0	1.0-12	---	0
	6-12	4.5-6.0	2.0-5.0	---	2.0-16	0
	12-17	4.5-5.5	0.5-3.0	---	2.0-16	0
	17-26	5.1-6.5	0.5-2.0	---	1.0-10	0
	26-37	5.1-7.8	0.0-0.5	4.0-12	---	0
	37-80	6.6-8.4	0.0-0.5	2.0-9.0	---	10-30
305B:						
Wurtsmith-------	0-1	3.5-6.0	50-90	---	---	0
	1-4	3.5-6.0	0.5-2.0	---	0.0-2.0	0
	4-24	3.5-6.0	0.5-1.0	---	0.0-1.0	0
	24-80	3.5-6.0	0.0-0.5	---	0.0-1.0	0
Meehan----------	0-3	3.5-6.5	50-90	---	---	0
	3-5	3.5-6.5	0.5-2.0	---	1.0-3.0	0
	5-28	3.5-6.5	0.5-1.0	---	0.0-1.0	0
	28-80	3.5-7.3	0.0-0.5	---	0.0-1.0	0
306C:						
Deerton, dissected------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
Tokiahok, dissected------	0-2	4.5-5.5	50-90	---	---	0
	2-11	4.5-5.5	0.5-2.0	---	1.0-7.0	0
	11-15	4.5-5.5	2.0-5.0	---	4.0-16	0
	15-24	4.5-5.5	0.5-3.0	---	1.0-12	0
	24-59	4.5-6.5	0.0-0.5	1.0-10	---	0
	59-80	5.6-6.5	0.0-0.5	3.0-9.0	---	0
Jeske, dissected	0-3	3.5-5.5	50-90	---	---	0
	3-21	4.5-6.0	0.0-0.5	0.0-4.0	---	0
	21-31	4.5-6.0	---	---	---	0
	31-80	4.5-6.0	---	---	---	0
307B:						
Rubicon, very deep water table----------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
307D:						
Rubicon, very deep water table----------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
308B:						
Rubicon---------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Sultz----------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.5	0.5-3.0	---	1.0-12	0
	2-6	3.5-6.0	0.1-1.0	---	0.2-8.0	0
	6-18	3.5-6.5	0.5-3.0	---	1.0-12	0
	18-51	3.5-6.5	0.0-0.5	0.0-7.0	---	0
	51-80	3.5-6.5	0.0-0.5	0.0-8.0	---	0
308D:						
Rubicon---------	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Sultz----------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.5	0.5-3.0	---	1.0-12	0
	2-6	3.5-6.0	0.1-1.0	---	0.2-8.0	0
	6-18	3.5-6.5	0.5-3.0	---	1.0-12	0
	18-51	3.5-6.5	0.0-0.5	0.0-7.0	---	0
	51-80	3.5-6.5	0.0-0.5	0.0-8.0	---	0
309B:						
Rubicon, deep water table----	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
309D:						
Rubicon, deep water table----	0-2	4.5-5.5	50-90	---	---	0
	2-5	4.5-6.0	0.1-1.0	---	0.2-5.0	0
	5-30	4.5-6.0	0.5-3.0	1.0-9.0	---	0
	30-38	4.5-6.5	0.1-0.5	0.2-4.0	---	0
	38-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
310B:						
Kalkaska, burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
310D:						
Kalkaska, burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
310E:						
Kalkaska, burned	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
311B:						
Kalkaska, very deep water table, burned--	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
311D:						
Kalkaska, very deep water table, burned--	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
312B:						
Islandlake, burned---------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
312D:						
Islandlake, burned---------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
313B:						
Kalkaska, deep water table, burned---------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
314B:						
Blue Lake, very deep water table, burned--	0-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-7	4.5-6.0	2.0-5.0	---	4.0-10	0
	7-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
315B:						
Blue Lake, deep water table, burned---------	0-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-7	4.5-6.0	2.0-5.0	---	4.0-10	0
	7-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
316B:						
Blue Lake, burned---------	0-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-7	4.5-6.0	2.0-5.0	---	4.0-10	0
	7-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
316D:						
Blue Lake, burned---------	0-5	4.5-6.0	0.5-2.0	---	1.0-10	0
	5-7	4.5-6.0	2.0-5.0	---	4.0-10	0
	7-27	4.5-6.0	0.5-3.0	---	1.0-9.0	0
	27-80	4.5-6.5	0.0-0.5	---	1.0-6.0	0
317B:						
Kalkaska, very deep water table----------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
317D:						
Kalkaska, very deep water table----------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
318B:						
Islandlake, very deep water table----------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
318D:						
Islandlake, very deep water table----------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
319B:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
319D:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
319E:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
319F:						
Islandlake------	0-1	3.5-6.0	50-90	---	---	0
	1-2	3.5-6.0	1.0-3.0	---	1.5-9.0	0
	2-8	3.5-6.0	0.5-2.0	---	0.8-6.0	0
	8-9	4.5-6.0	2.0-5.0	---	3.0-10	0
	9-41	4.5-6.0	0.5-3.0	---	0.7-6.7	0
	41-80	5.1-6.5	0.1-0.5	---	0.2-7.0	0
320B:						
Kalkaska, deep water table----	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
321B:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0

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

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Effective cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	meq/100 g	Pct
321B:						
Deerton---------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0
321D:						
Kalkaska--------	0-2	3.5-6.0	2.0-5.0	---	2.0-11	0
	2-6	4.5-6.0	0.1-1.0	---	1.0-5.0	0
	6-8	4.5-6.0	2.0-5.0	---	2.0-9.0	0
	8-16	4.5-6.0	0.5-3.0	---	1.0-5.0	0
	16-26	4.5-6.5	0.1-0.5	---	0.2-4.0	0
	26-80	4.5-6.5	0.1-0.5	0.2-4.0	---	0
Deerton---------	0-1	3.5-6.0	50-90	---	---	0
	1-9	3.5-6.0	0.5-2.0	---	1.0-8.0	0
	9-10	3.5-6.0	2.0-5.0	---	4.0-16	0
	10-25	3.5-6.0	0.5-3.0	---	1.0-10	0
	25-39	---	---	---	---	0
	39-80	---	---	---	---	0

Table 19.--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				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
10. Beaches									
11C: Deer Park	---	---	---	---	---	---	Low	Low	Low
11E: Deer Park	---	---	---	---	---	---	Low	Low	Low
11F: Deer Park	---	---	---	---	---	---	Low	Low	Low
12B: Rubicon	---	---	---	---	---	---	Low	Low	High
12D: Rubicon	---	---	---	---	---	---	Low	Low	High
12E: Rubicon	---	---	---	---	---	---	Low	Low	High
13B: Kalkaska	---	---	---	---	---	---	Low	Low	High
13D: Kalkaska	---	---	---	---	---	---	Low	Low	High
13E: Kalkaska	---	---	---	---	---	---	Low	Low	High
15A: Croswell	---	---	---	---	---	---	Low	Low	Moderate
16A: Paquin	Ortstein	10-16	10-20	Strongly cemented	---	---	Low	Low	High
17A: Au Gres	---	---	---	---	---	---	Moderate	Low	Moderate
18: Kinross	---	---	---	---	---	---	Moderate	High	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
19:									
Deford	---	---	---	---	---	---	Moderate	High	Moderate
21A:									
Ingalls	---	---	---	---	---	---	Moderate	Low	High
24B:									
Munising	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
25B:									
Munising	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Yalmer	Fragipan	20-40	13-29	Strongly cemented	---	---	Low	Low	High
25D:									
Munising	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Yalmer	Fragipan	20-40	13-29	Strongly cemented	---	---	Low	Low	High
31D:									
Trenary	---	---	---	---	---	---	Moderate	Low	Moderate
33:									
Ensley	---	---	---	---	---	---	High	Low	Moderate
35B:									
Munising, calcareous substratum	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Low	High
Yalmer, calcareous substratum	Fragipan	20-40	13-45	Strongly cemented	---	---	Low	Low	Moderate
Frohling, calcareous substratum	Fragipan	15-25	24-65	Strongly cemented	---	---	Moderate	Low	Moderate
37B:									
Grand Sable	---	---	---	---	---	---	Low	Low	Moderate
37E:									
Grand Sable	---	---	---	---	---	---	Low	Low	Moderate
38B:									
Rhody	Lithic bedrock	20-50	30-60	Indurated	---	---	High	High	Moderate
	Paralithic bedrock	20-40	0-10	Strongly cemented					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
38B:									
Towes	Lithic bedrock	20-45	35-60	Indurated	---	---	High	High	Moderate
	Paralithic bedrock	20-30	1-20	Strongly cemented					
40B:									
Waiska, very stony	---	---	---	---	---	---	Low	Low	High
42:									
Davies	---	---	---	---	---	---	High	High	Moderate
46:									
Jacobsville, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	High	Moderate
47C:									
Deerton	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Au Train	Paralithic bedrock	10-20	6-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
47E:									
Deerton	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Au Train	Paralithic bedrock	10-20	6-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
48:									
Burt	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	High	Moderate
49B:									
Cookson	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Low
51:									
Nahma	Lithic bedrock	20-40	40-60	Indurated	4-8	8-16	High	High	Low
Ruse	Lithic bedrock	4-20	60-76	Indurated	---	---	High	High	Low

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
52B:									
Summerville	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	Low	Low
57:									
Carbondale	---	---	---	---	6-18	50-55	High	Moderate	Moderate
Lupton	---	---	---	---	6-18	50-55	High	Moderate	Low
Tawas	---	---	---	---	8-25	16-50	High	Moderate	Moderate
58:									
Dawson	---	---	---	---	8-25	16-50	High	Moderate	High
Greenwood	---	---	---	---	6-18	50-55	High	Moderate	High
Loxley	---	---	---	---	6-18	50-55	High	Moderate	High
59:									
Chippeny	Lithic bedrock	16-51	29-64	Indurated	8-25	16-50	High	Moderate	Low
Nahma	Lithic bedrock	20-40	40-60	Indurated	4-8	8-16	High	High	Low
60:									
Histosols	---	---	---	---	6-18	50-55	High	High	Moderate
Aquents	---	---	---	---	---	---	High	High	Moderate
61. Pits									
62F. Udipsamments and Udorthents									
64B:									
Kiva	---	---	---	---	---	---	Low	Low	Moderate
64D:									
Kiva	---	---	---	---	---	---	Low	Low	Moderate
65D:									
Jeske, bedrock terrace	Paralithic bedrock	10-23	2-30	Strongly cemented	---	---	Moderate	Low	High
	Lithic bedrock	20-40	40-60	Indurated					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
65D:									
Gongeau, bedrock terrace----------	Paralithic bedrock	10-20	2-12	Strongly cemented	---	---	High	High	High
	Lithic bedrock	20-30	50-60	Indurated					
Deerton, bedrock terrace----------	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
65F:									
Jeske, bedrock terrace	Paralithic bedrock	10-23	2-30	Strongly cemented	---	---	Moderate	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Gongeau, bedrock terrace----------	Paralithic bedrock	10-20	2-12	Strongly cemented	---	---	High	High	High
	Lithic bedrock	20-30	50-60	Indurated					
Deerton, bedrock terrace----------	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
66D:									
Ruse, bedrock terrace--	Paralithic bedrock	10-20	0-10	Strongly cemented	---	---	High	High	Low
	Lithic bedrock	10-20	60-70	Indurated					
Ensign, bedrock terrace	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	High	Low
	Paralithic bedrock	10-20	0-10	Strongly cemented					
Nykanen, bedrock terrace----------	Paralithic bedrock	10-20	0-15	Strongly cemented	---	---	Moderate	Moderate	Moderate
	Lithic bedrock	10-32	48-70	Indurated					
66F:									
Ruse, bedrock terrace--	Paralithic bedrock	10-20	0-10	Strongly cemented	---	---	High	High	Low
	Lithic bedrock	10-20	60-70	Indurated					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
66F:									
Ensign, bedrock terrace	Paralithic bedrock	10-20	0-10	Strongly cemented	---	---	Moderate	High	Low
	Lithic bedrock	10-20	60-70	Indurated					
Nykanen, bedrock terrace	Paralithic bedrock	10-20	0-15	Strongly cemented	---	---	Moderate	Moderate	Moderate
	Lithic bedrock	10-32	48-70	Indurated					
68:									
Pits, quarry	Lithic bedrock	0-4	---	Indurated	---	---	---	---	---
69B:									
Escanaba	---	---	---	---	---	---	Low	Low	Moderate
71A:									
Evart	---	---	---	---	---	---	High	High	Moderate
Sturgeon	---	---	---	---	---	---	High	High	Moderate
72E:									
Deerton, dissected	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Tokiahok, dissected	Fragipan	20-40	6-60	Strongly cemented	---	---	Low	Low	Moderate
Trout Bay, dissected	Paralithic bedrock	16-50	1-30	Moderately cemented	8-25	16-50	High	Moderate	Moderate
	Lithic bedrock	17-51	29-63	Indurated					
72F:									
Deerton, dissected	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Tokiahok, dissected	Fragipan	20-40	6-60	Strongly cemented	---	---	Low	Low	Moderate
Trout Bay, dissected	Paralithic bedrock	16-50	1-30	Moderately cemented	8-25	16-50	High	Moderate	Moderate
	Lithic bedrock	17-51	29-63	Indurated					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
76C:									
Garlic, dissected------	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected---	---	---	---	---	---	---	Low	Low	High
Voelker, dissected-----	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
76E:									
Garlic, dissected------	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected---	---	---	---	---	---	---	Low	Low	High
Voelker, dissected-----	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
76F:									
Garlic, dissected------	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected---	---	---	---	---	---	---	Low	Low	High
Voelker, dissected-----	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
77B:									
Garlic----------	---	---	---	---	---	---	Low	Low	High
Blue Lake----------	---	---	---	---	---	---	Low	Low	High
Voelker----------	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
77D:									
Garlic----------	---	---	---	---	---	---	Low	Low	High
Blue Lake----------	---	---	---	---	---	---	Low	Low	High
Voelker----------	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
77E:									
Garlic----------	---	---	---	---	---	---	Low	Low	High
Blue Lake----------	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
77E:									
Voelker	Ortstein	10-20	13-26	Strongly cemented	---	---	Low	Low	Moderate
88:									
Cathro	---	---	---	---	8-25	16-50	High	Moderate	Moderate
Ensley	---	---	---	---	---	---	High	Low	Moderate
93:									
Tawas	---	---	---	---	8-25	16-50	High	High	Moderate
Deford	---	---	---	---	---	---	Moderate	High	Moderate
95B:									
Liminga	---	---	---	---	---	---	Low	Low	Moderate
104C:									
Fence, dissected	---	---	---	---	---	---	High	Low	Moderate
109D:									
Rousseau	---	---	---	---	---	---	Low	Low	Moderate
Dawson	---	---	---	---	8-25	16-50	High	Moderate	High
109F:									
Rousseau	---	---	---	---	---	---	Low	Low	Moderate
Dawson	---	---	---	---	8-25	16-50	High	Moderate	High
125B:									
Stutts	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High
125D:									
Stutts	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High
125E:									
Stutts	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
135B:									
Munising, calcareous substratum	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Low	High
Ensley	---	---	---	---	---	---	High	Low	Moderate
145C:									
Munising, dissected, very stony	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Yalmer, dissected, very stony	Fragipan	20-40	13-29	Strongly cemented	---	---	Low	Low	High
146B:									
Munising, stony	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Skanee, stony	Fragipan	12-20	6-30	Strongly cemented	---	---	High	High	Moderate
147A:									
Skanee, very stony	Fragipan	12-20	6-30	Strongly cemented	---	---	High	High	Moderate
Gay, very stony	---	---	---	---	---	---	High	High	Moderate
148B:									
Shoepac	---	---	---	---	---	---	Moderate	High	Moderate
Ensley	---	---	---	---	---	---	High	Low	Moderate
155A:									
Zeba, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	Moderate	Moderate
Jacobsville, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	High	Moderate
157B:									
Reade	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
Nahma	Lithic bedrock	20-40	40-60	Indurated	4-8	8-16	High	High	Low
158C:									
Munising, dissected, stony	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Abbaye, dissected, stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
160B:									
Paquin	Ortstein	10-16	10-20	Strongly cemented	---	---	Low	Low	High
Finch	Ortstein	7-13	24-40	Strongly cemented	---	---	Low	High	Moderate
161B:									
Yellowdog, stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Low	Low	High
Buckroe, stony	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
165B:									
Chocolay, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
Waiska, very stony	---	---	---	---	---	---	Low	Low	High
166:									
Skandia	Paralithic bedrock	16-50	1-5	Strongly cemented	8-25	16-50	High	Moderate	High
	Lithic bedrock	16-51	29-64	Indurated					
167:									
Skandia, stony	Paralithic bedrock	16-50	1-5	Strongly cemented	8-25	16-50	High	Moderate	High
	Lithic bedrock	16-51	29-64	Indurated					
Jacobsville, stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	High	Moderate
170B:									
Chocolay, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
171B:									
Paavola, very stony	Fragipan	19-38	13-39	Strongly cemented	---	---	Low	Moderate	Moderate
172D:									
Buckroe, very bouldery	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
Rock outcrop.									
172F:									
Buckroe, very bouldery	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
Rock outcrop.									

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
176B:									
Croswell	---	---	---	---	---	---	Low	Low	Moderate
Kinross	---	---	---	---	---	---	Moderate	High	Moderate
181E:									
Frohling, dissected, stony	Fragipan	15-25	24-65	Strongly cemented	---	---	Moderate	Low	Moderate
Tokiahok, dissected, stony	Fragipan	20-40	6-60	Strongly cemented	---	---	Low	Low	Moderate
185B:									
McMaster	---	---	---	---	---	---	Low	Moderate	Moderate
186B:									
Chatham, stony	---	---	---	---	---	---	Moderate	Low	Moderate
186D:									
Chatham, stony	---	---	---	---	---	---	Moderate	Low	Moderate
187B:									
Reade	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
188B:									
Eben, stony	---	---	---	---	---	---	Moderate	Low	Low
188D:									
Eben, stony	---	---	---	---	---	---	Moderate	Low	Low
188E:									
Eben, stony	---	---	---	---	---	---	Moderate	Low	Low
191B:									
Ruse	Lithic bedrock	4-20	60-76	Indurated	---	---	High	High	Low
Ensign	Lithic bedrock	10-20	60-70	Indurated	---	---	High	Moderate	Low
197B:									
Shoepac	---	---	---	---	---	---	Moderate	High	Moderate
Trenary	---	---	---	---	---	---	Moderate	Low	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
198B:									
Shoepac	---	---	---	---	---	---	Moderate	High	Moderate
Reade	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
200A:									
Charlevoix	---	---	---	---	---	---	High	High	Moderate
Ensley	---	---	---	---	---	---	High	Low	Moderate
202B:									
Sauxhead, very stony	Paralithic bedrock	10-20	0-7	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	10-20	60-70	Indurated					
206B:									
Traunik	---	---	---	---	---	---	Low	Low	Moderate
206D:									
Traunik	---	---	---	---	---	---	Low	Low	Moderate
211B:									
Munising	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Moderate	High
Abbaye	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
214B:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
214D:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
214E:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
221B:									
Jeske	Paralithic bedrock	10-23	2-30	Strongly cemented	---	---	Moderate	Low	High
	Lithic bedrock	20-40	40-60	Indurated					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
221B:									
Au Train	Paralithic bedrock	10-20	6-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Gongeau	Paralithic bedrock	10-20	2-12	Strongly cemented	---	---	High	High	High
	Lithic bedrock	20-30	50-60	Indurated					
225B:									
Cusino	---	---	---	---	---	---	Low	Low	High
225D:									
Cusino	---	---	---	---	---	---	Low	Low	High
226B:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Cusino	---	---	---	---	---	---	Low	Low	High
226D:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Cusino	---	---	---	---	---	---	Low	Low	High
226E:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Cusino	---	---	---	---	---	---	Low	Low	High
226F:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Cusino	---	---	---	---	---	---	Low	Low	High
227A:									
Halfaday	---	---	---	---	---	---	Low	Low	High
232B:									
Shelldrake	---	---	---	---	---	---	Low	Low	High
233B:									
Abbaye, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
Zeba, very stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	Moderate	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
234A:									
Levasseur, very stony--	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	Low	High
Burt, very stony-------	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	High	Moderate
235B:									
Sauxhead, very stony---	Paralithic bedrock	10-20	0-7	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	10-20	60-70	Indurated					
Burt, very stony-------	Lithic bedrock	10-20	60-70	Indurated	---	---	Moderate	High	Moderate
236B:									
Waiska, extremely bouldery----------	---	---	---	---	---	---	Low	Low	High
236D:									
Waiska, extremely bouldery----------	---	---	---	---	---	---	Low	Low	High
237B:									
Chatham----------	---	---	---	---	---	---	Moderate	Low	Moderate
Davies----------	---	---	---	---	---	---	High	High	Moderate
239B:									
Longrie----------	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Low	Moderate
Shingleton----------	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
240F:									
Trout Bay----------	Paralithic bedrock	16-50	1-30	Moderately cemented	8-25	16-50	High	Moderate	Moderate
	Lithic bedrock	17-51	29-63	Indurated					
Gongeau----------	Paralithic bedrock	10-20	2-12	Strongly cemented	---	---	High	High	High
	Lithic bedrock	20-30	50-60	Indurated					
Shingleton----------	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
Rock outcrop.									

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
241:									
Cathro	---	---	---	---	8-25	16-50	High	Moderate	Moderate
Gay	---	---	---	---	---	---	High	High	Moderate
242B:									
Kalkaska, severely burned	---	---	---	---	---	---	Low	Low	High
242D:									
Kalkaska, severely burned	---	---	---	---	---	---	Low	Low	High
242F:									
Kalkaska, severely burned	---	---	---	---	---	---	Low	Low	High
243:									
Markey	---	---	---	---	8-24	18-40	High	Moderate	High
245B:									
Trout Bay	Paralithic bedrock	16-50	1-30	Moderately cemented	8-25	16-50	High	Moderate	Moderate
	Lithic bedrock	17-51	29-63	Indurated					
Lupton	---	---	---	---	15-28	30-48	High	Moderate	Low
Gongeau	Paralithic bedrock	10-20	2-12	Strongly cemented	---	---	High	High	High
	Lithic bedrock	20-30	50-60	Indurated					
246B:									
Garlic	---	---	---	---	---	---	Low	Low	High
246D:									
Garlic	---	---	---	---	---	---	Low	Low	High
246E:									
Garlic	---	---	---	---	---	---	Low	Low	High
248B:									
Escanaba	---	---	---	---	---	---	Low	Low	Moderate
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
248D:									
Escanaba	---	---	---	---	---	---	Low	Low	Moderate
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate
248E:									
Escanaba	---	---	---	---	---	---	Low	Low	Moderate
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate
249B:									
Sauxhead	Paralithic bedrock	10-20	0-7	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	10-20	60-70	Indurated					
Skandia	Paralithic bedrock	16-50	1-5	Strongly cemented	8-25	16-50	High	Moderate	High
	Lithic bedrock	16-51	29-64	Indurated					
250B:									
Chocolay, extremely stony	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Moderate
Jacobsville, extremely stony	Lithic bedrock	20-40	40-60	Indurated	---	---	High	High	Moderate
251B:									
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate
251D:									
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate
252A:									
Finch	Ortstein	7-13	24-40	Strongly cemented	---	---	Low	High	Moderate
Kinross	---	---	---	---	---	---	Moderate	High	Moderate
254C:									
Kalkaska, dissected	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected	---	---	---	---	---	---	Low	Low	High
254E:									
Kalkaska, dissected	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
254F:									
Kalkaska, dissected----	---	---	---	---	---	---	Low	Low	High
Blue Lake, dissected---	---	---	---	---	---	---	Low	Low	High
255D:									
Wallace----------	Ortstein	8-18	8-30	Strongly cemented	---	---	Low	Low	Moderate
256B:									
Whitewash----------	---	---	---	---	---	---	Low	Low	High
266A:									
Spot----------	Ortstein	8-12	2-15	Strongly cemented	---	---	Moderate	High	High
Finch----------	Ortstein	7-13	24-40	Strongly cemented	---	---	Low	High	Moderate
267A:									
Finch----------	Ortstein	7-13	24-40	Strongly cemented	---	---	Low	High	Moderate
268C:									
Munising, calcareous substratum, dissected	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Low	High
Frohling, calcareous substratum, dissected	Fragipan	15-25	24-65	Strongly cemented	---	---	Moderate	Low	Moderate
Cookson, dissected-----	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Low
269E:									
Frohling, calcareous substratum, dissected	Fragipan	15-25	24-65	Strongly cemented	---	---	Moderate	Low	Moderate
Garlic, dissected------	---	---	---	---	---	---	Low	Low	High
Cookson, dissected-----	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Low
272C:									
Munising, calcareous substratum, dissected	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Low	High
Yalmer, calcareous substratum, dissected	Fragipan	20-40	13-45	Strongly cemented	---	---	Low	Low	Moderate
Frohling, calcareous substratum, dissected	Fragipan	15-25	24-65	Strongly cemented	---	---	Moderate	Low	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
275B:									
Munising, calcareous substratum	Fragipan	15-25	25-43	Strongly cemented	---	---	Moderate	Low	High
Cookson	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Low
281E:									
Mongo, dissected	---	---	---	---	---	---	High	High	Moderate
282B:									
Furlong	Lithic bedrock	20-40	40-70	Indurated	---	---	Low	Low	High
Shingleton	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
282D:									
Furlong	Lithic bedrock	20-40	40-70	Indurated	---	---	Low	Low	High
Shingleton	Lithic bedrock	10-20	60-70	Indurated	---	---	Low	Low	High
284B:									
Steuben	Fragipan	17-26	6-27	Strongly cemented	---	---	Moderate	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High
284D:									
Steuben	Fragipan	17-26	6-27	Strongly cemented	---	---	Moderate	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High
284E:									
Steuben	Fragipan	17-26	6-27	Strongly cemented	---	---	Moderate	Low	High
Blue Lake	---	---	---	---	---	---	Low	Low	High
Kalkaska	---	---	---	---	---	---	Low	Low	High
285B:									
Halfaday	---	---	---	---	---	---	Low	Low	High
Kinross	---	---	---	---	---	---	Moderate	High	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
286B:									
Greylock	---	---	---	---	---	---	Moderate	Low	Moderate
Cookson	Lithic bedrock	20-40	---	Indurated	---	---	Moderate	Moderate	Low
287B:									
McMaster	---	---	---	---	---	---	Low	Moderate	Moderate
Davies	---	---	---	---	---	---	High	High	Moderate
290A:									
Namur, very stony	Lithic bedrock	4-10	70-76	Indurated	---	---	Moderate	Low	Low
Ruse, very stony	Lithic bedrock	4-20	60-76	Indurated	---	---	High	High	Low
292B:									
Mashek, sandy substratum	Dense material	35-50	19-35	Noncemented	---	---	Moderate	Moderate	Moderate
296D:									
Islandlake	---	---	---	---	---	---	Low	Low	High
McMillan	---	---	---	---	---	---	Moderate	Low	High
296E:									
Islandlake	---	---	---	---	---	---	Low	Low	High
McMillan	---	---	---	---	---	---	Moderate	Low	High
297B:									
Rubicon, severely burned	---	---	---	---	---	---	Low	Low	High
297D:									
Rubicon, severely burned	---	---	---	---	---	---	Low	Low	High
298B:									
Wurtsmith	---	---	---	---	---	---	Low	Low	High
Deford	---	---	---	---	---	---	Moderate	High	Moderate
299F:									
Shelldrake	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
300F:									
Shelldrake----------	---	---	---	---	---	---	Low	Low	High
Dune land.									
301F:									
Cookson, dissected-----	Lithic bedrock	20-40	40-60	Indurated	---	---	Moderate	Moderate	Low
Nykanen, dissected-----	Paralithic bedrock	10-20	0-15	Strongly cemented	---	---	Moderate	Moderate	Moderate
	Lithic bedrock	10-32	48-70	Indurated					
302B:									
Dillingham----------	Fragipan	16-28	8-16	Strongly cemented	---	---	Low	Low	High
Kalkaska----------	---	---	---	---	---	---	Low	Low	High
302D:									
Dillingham----------	Fragipan	16-28	8-16	Strongly cemented	---	---	Low	Low	High
Kalkaska----------	---	---	---	---	---	---	Low	Low	High
302E:									
Dillingham----------	Fragipan	16-28	8-16	Strongly cemented	---	---	Low	Low	High
Kalkaska----------	---	---	---	---	---	---	Low	Low	High
302F:									
Dillingham----------	Fragipan	16-28	8-16	Strongly cemented	---	---	Low	Low	High
Kalkaska----------	---	---	---	---	---	---	Low	Low	High
303B:									
Kiva----------	---	---	---	---	---	---	Low	Low	Moderate
Trenary----------	---	---	---	---	---	---	Moderate	Low	Moderate
303D:									
Kiva----------	---	---	---	---	---	---	Low	Low	Moderate
Trenary----------	---	---	---	---	---	---	Moderate	Low	Moderate
303E:									
Kiva----------	---	---	---	---	---	---	Low	Low	Moderate
Trenary----------	---	---	---	---	---	---	Moderate	Low	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
305B:									
Wurtsmith----------	---	---	---	---	---	---	Low	Low	High
Meehan----------	---	---	---	---	---	---	Moderate	Low	High
306C:									
Deerton, dissected-----	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
Tokiahok, dissected----	Fragipan	20-40	6-60	Strongly cemented	---	---	Low	Low	Moderate
Jeske, dissected-------	Paralithic bedrock	10-23	2-30	Strongly cemented	---	---	Moderate	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
307B:									
Rubicon, very deep water table----------	---	---	---	---	---	---	Low	Low	High
307D:									
Rubicon, very deep water table----------	---	---	---	---	---	---	Low	Low	High
308B:									
Rubicon----------	---	---	---	---	---	---	Low	Low	High
Sultz----------	---	---	---	---	---	---	Low	Low	Moderate
308D:									
Rubicon----------	---	---	---	---	---	---	Low	Low	High
Sultz----------	---	---	---	---	---	---	Low	Low	High
309B:									
Rubicon, deep water table----------	---	---	---	---	---	---	Low	Low	High
309D:									
Rubicon, deep water table----------	---	---	---	---	---	---	Low	Low	High
310B:									
Kalkaska, burned-------	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
310D:									
Kalkaska, burned-------	---	---	---	---	---	---	Low	Low	High
310E:									
Kalkaska, burned-------	---	---	---	---	---	---	Low	Low	High
311B:									
Kalkaska, very deep water table, burned---	---	---	---	---	---	---	Low	Low	High
311D:									
Kalkaska, very deep water table, burned---	---	---	---	---	---	---	Low	Low	High
312B:									
Islandlake, burned-----	---	---	---	---	---	---	Low	Low	High
312D:									
Islandlake, burned-----	---	---	---	---	---	---	Low	Low	High
313B:									
Kalkaska, deep water table, burned---------	---	---	---	---	---	---	Low	Low	High
314B:									
Blue Lake, very deep water table, burned---	---	---	---	---	---	---	Low	Low	High
315B:									
Blue Lake, deep water table, burned---------	---	---	---	---	---	---	Low	Low	High
316B:									
Blue Lake, burned------	---	---	---	---	---	---	Low	Low	High
316D:									
Blue Lake, burned------	---	---	---	---	---	---	Low	Low	High
317B:									
Kalkaska, very deep water table----------	---	---	---	---	---	---	Low	Low	High
317D:									
Kalkaska, very deep water table----------	---	---	---	---	---	---	Low	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
318B:									
Islandlake, very deep water table	---	---	---	---	---	---	Low	Low	High
318D:									
Islandlake, very deep water table	---	---	---	---	---	---	Low	Low	High
319B:									
Islandlake	---	---	---	---	---	---	Low	Low	High
319D:									
Islandlake	---	---	---	---	---	---	Low	Low	High
319E:									
Islandlake	---	---	---	---	---	---	Low	Low	High
319F:									
Islandlake	---	---	---	---	---	---	Low	Low	High
320B:									
Kalkaska, deep water table	---	---	---	---	---	---	Low	Low	High
321B:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Deerton	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					
321D:									
Kalkaska	---	---	---	---	---	---	Low	Low	High
Deerton	Paralithic bedrock	20-40	0-20	Moderately cemented	---	---	Low	Low	High
	Lithic bedrock	20-40	40-60	Indurated					

Table 20.--Soil Moisture Status by Depth

(Depths of layers are in feet)

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
10. Beaches												
11C: Deer Park--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
11E: Deer Park--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
11F: Deer Park--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
12B: Rubicon----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
12D: Rubicon----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
12E: Rubicon----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
13B: Kalkaska---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
13D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
13E:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
15A:												
Croswell--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
16A:												
Paquin----------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
17A:												
Au Gres---------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
18:												
Kinross---------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
19:												
Deford----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
21A:												
Ingalls---------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
24B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
25B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Yalmer----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-1.0: Moist 1.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-3.0: Dry 3.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-7.0: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-7.0: Moist	0.0-7.0: Moist --- ---
25D:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-1.0: Moist 1.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-3.0: Dry 3.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-7.0: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-7.0: Moist	0.0-7.0: Moist --- ---
Yalmer----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-1.0: Moist 1.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-3.0: Dry 3.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-7.0: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-7.0: Moist	0.0-7.0: Moist --- ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
31D:												
Trenary---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
33:												
Ensley----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---
35B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Yalmer----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-1.0: Moist 1.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-3.0: Dry 3.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-7.0: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-7.0: Moist	0.0-7.0: Moist --- ---
Frohling--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
37B:												
Grand Sable-----	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
37E:												
Grand Sable-----	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
38B:												
Rhody----------	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-0.5: Moist 0.5-3.0: Wet	0.0-1.0: Moist 1.0-3.0: Wet	0.0-2.0: Moist 2.0-3.0: Wet	0.0-1.5: Moist 1.5-3.0: Wet	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---
Towes----------	0.0-2.0: Moist 2.0-2.2: Wet	0.0-2.0: Moist 2.0-2.2: Wet	0.0-1.5: Moist 1.5-2.2: Wet	0.0-1.0: Moist 1.0-2.2: Wet	0.0-0.5: Moist 0.5-2.2: Wet	0.0-2.0: Moist 2.0-2.2: Wet	0.0-2.2: Moist ---	0.0-2.2: Moist ---	0.0-2.2: Moist ---	0.0-1.0: Moist 1.0-2.2: Wet	0.0-1.0: Moist 1.0-2.2: Wet	0.0-1.5: Moist 1.5-2.2: Wet
40B:												
Waiska----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
42:												
Davies----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
46:												
Jacobsville-----	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-0.5: Moist 0.5-3.0: Wet	0.0-1.0: Moist 1.0-3.0: Wet	0.0-2.0: Moist 2.0-3.0: Wet	1.5-3.0: Wet 0.0-1.5: Moist	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---
47C:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
Au Train--------	0.0-2.7: Moist ---	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-2.7: Moist ---	0.0-0.5: Dry 0.5-2.7: Moist	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet
47E:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
47E:												
Au Train--------	0.0-2.7: Moist ---	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-2.7: Moist ---	0.0-0.5: Dry 0.5-2.7: Moist	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet
48:												
Burt----------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-1.6: Moist ---	0.0-1.5: Moist 1.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
49B:												
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
51:												
Nahma----------	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-0.5: Moist 0.5-2.5: Wet	0.0-1.0: Moist 1.0-2.5: Wet	0.0-2.0: Moist 2.0-2.5: Wet	0.0-1.5: Moist 1.5-2.5: Wet	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---
Ruse----------	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-0.5: Moist 0.5-1.2: Wet	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---
52B:												
Summerville-----	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.0: Dry 1.0-1.1: Moist	0.0-1.1: Dry ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Moist ---
57:												
Carbondale------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Lupton----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
57:												
Tawas----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
58:												
Dawson----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Greenwood-------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Loxley----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
59:												
Chippeny--------	0.0-2.3: Wet ---	0.0-2.3: Wet ---	0.0-2.3: Wet ---	0.0-2.3: Wet ---	0.0-2.3: Wet ---	0.0-0.5: Moist 0.5-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.5: Moist 1.5-2.3: Wet	0.0-2.3: Wet ---	0.0-2.3: Wet ---	0.0-2.3: Wet ---
Nahma----------	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-0.5: Moist 0.5-2.5: Wet	0.0-1.0: Moist 1.0-2.5: Wet	0.0-2.0: Moist 2.0-2.5: Wet	0.0-1.5: Moist 1.5-2.5: Wet	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---
60:												
Histosols-------	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Aquents---------	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
61. Pits												
62F. Udipsamments and Udorthents												

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
64B:												
Kiva----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
64D:												
Kiva----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
65D:												
Jeske----------	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.7: Wet ---	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet
Gongeau---------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
65F:												
Jeske----------	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.7: Wet ---	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet
Gongeau---------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
66D:												
Ruse----------	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-0.5: Moist 0.5-1.1: Wet	0.0-1.0: Moist 1.0-1.1: Wet	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---
Ensign----------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-0.5: Moist 0.5-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---
Nykanen---------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Dry 1.0-1.2: Wet	0.0-1.2: Dry ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---
66F:												
Ruse----------	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-0.5: Moist 0.5-1.1: Wet	0.0-1.0: Moist 1.0-1.1: Wet	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---	0.0-1.1: Wet ---
Ensign----------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-0.5: Moist 0.5-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---
Nykanen---------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Dry 1.0-1.2: Wet	0.0-1.2: Dry ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---
68. Pits, quarry												
69B:												
Escanaba--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
71A:												
Evart----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
71A:												
Sturgeon--------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---
72E:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
Tokiahok--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Trout Bay-------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
72F:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
Tokiahok--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Trout Bay-------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
76C:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
76C:												
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
76E:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
76F:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
77B:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
77D:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
77E:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Voelker---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
88:												
Cathro----------	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-0.5: Moist 0.5-7.0: Wet	0.0-1.0: Moist 1.0-7.0: Wet	0.0-0.5: Moist 0.5-7.0: Wet	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---
Ensley----------	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-0.5: Moist 0.5-7.0: Wet	0.0-1.0: Moist 1.0-7.0: Wet	0.0-2.0: Moist 2.0-7.0: Wet	0.0-1.5: Moist 1.5-7.0: Wet	0.0-0.5: Moist 0.5-7.0: Wet	0.0-7.0: Wet ---	0.0-7.0: Wet ---
93:												
Tawas----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Deford----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
95B:												
Liminga---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
104C:												
Fence----------	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-1.0: Dry 1.0-6.0: Moist 6.0-6.7: Wet	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.0: Moist 6.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---
109D:												
Rousseau--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Dawson----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
109F:												
Rousseau--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Dawson----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
125B:												
Stutts----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
125D:												
Stutts----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
125E:												
Stutts----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
135B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Ensley----------	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-0.5: Moist 0.5-7.0: Wet	0.0-1.0: Moist 1.0-7.0: Wet	0.0-2.0: Moist 2.0-7.0: Wet	0.0-1.5: Moist 1.5-7.0: Wet	0.0-0.5: Moist 0.5-7.0: Wet	0.0-7.0: Wet ---	0.0-7.0: Wet ---
145C:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Yalmer----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
146B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Skanee----------	0.0-5.5: Moist 5.5-6.7: Wet --- ---	0.0-5.5: Moist 5.5-6.7: Wet --- ---	0.0-5.0: Moist 5.0-6.7: Wet --- ---	0.0-0.5: Moist 0.5-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-0.5: Moist 0.5-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-1.0: Moist 1.0-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet --- ---	0.0-0.5: Dry 0.5-6.7: Moist --- ---	0.0-6.7: Moist --- --- ---	0.0-5.5: Moist 5.5-6.7: Wet --- ---	0.0-5.5: Moist 5.5-6.7: Wet --- ---	0.0-5.5: Moist 5.5-6.7: Wet --- ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
147A:												
Skanee----------	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-0.5: Moist 0.5-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-0.5: Moist 0.5-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-1.0: Moist 1.0-1.2: Wet 1.2-4.5: Moist 4.5-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-0.5: Dry 0.5-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---
Gay----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
148B:												
Shoepac---------	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-1.0: Dry 1.0-6.0: Moist 6.0-6.7: Wet	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.0: Moist 6.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-5.0: Moist 5.0-7.0: Wet ---
Ensley----------	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-7.0: Wet ---	0.0-0.5: Moist 0.5-7.0: Wet	0.0-1.0: Moist 1.0-7.0: Wet	0.0-2.0: Moist 2.0-7.0: Wet	0.0-1.5: Moist 1.5-7.0: Wet	0.0-0.5: Moist 0.5-7.0: Wet	0.0-7.0: Wet ---	0.0-7.0: Wet ---
155A:												
Zeba----------	0.0-2.0: Moist 2.0-2.8: Wet	0.0-2.0: Moist 2.0-2.8: Wet	0.0-1.5: Moist 1.5-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-0.5: Moist 0.5-2.8: Wet	0.0-2.0: Moist 2.0-2.8: Wet	0.0-2.5: Moist 2.5-2.8: Wet	0.0-2.8: Moist ---	0.0-2.5: Moist 2.5-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-1.5: Moist 1.5-2.8: Wet
Jacobsville-----	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-0.5: Moist 0.5-3.0: Wet	0.0-1.0: Moist 1.0-3.0: Wet	0.0-2.0: Moist 2.0-3.0: Wet	1.5-3.0: Wet 0.0-1.5: Moist	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---
157B:												
Reade----------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Wet	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
157B:												
Nahma----------	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-0.5: Moist 0.5-2.5: Wet	0.0-1.0: Moist 1.0-2.5: Wet	0.0-2.0: Moist 2.0-2.5: Wet	0.0-1.5: Moist 1.5-2.5: Wet	0.0-2.5: Wet ---	0.0-2.5: Wet ---	0.0-2.5: Wet ---
158C:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Abbaye----------	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.0: Moist 2.0-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Dry 1.5-2.7: Moist	0.0-2.7: Moist ---	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---
160B:												
Paquin----------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Finch----------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
161B:												
Yellowdog-------	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.0: Dry 2.0-2.7: Moist	0.0-2.7: Dry ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.7: Moist ---
Buckroe---------	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Dry	0.0-1.2: Dry	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
165B:												
Chocolay--------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Moist	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---
Waiska----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
166:												
Skandia---------	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-0.5: Moist 0.5-2.2: Wet	0.0-1.0: Moist 1.0-2.2: Wet	0.0-0.5: Moist 0.5-2.2: Wet	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---
167:												
Skandia---------	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-0.5: Moist 0.5-2.2: Wet	0.0-1.0: Moist 1.0-2.2: Wet	0.0-0.5: Moist 0.5-2.2: Wet	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---
Jacobsville-----	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-0.5: Moist 0.5-3.0: Wet	0.0-1.0: Moist 1.0-3.0: Wet	0.0-2.0: Moist 2.0-3.0: Wet	1.5-3.0: Wet 0.0-1.5: Moist	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---
170B:												
Chocolay--------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Moist	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---
171B:												
Paavola---------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.6: Wet 2.6-6.7: Moist	0.0-1.0: Moist 1.0-2.6: Wet 2.6-6.7: Moist	0.0-1.5: Moist 1.5-2.6: Wet 2.6-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.6: Wet 2.6-6.7: Moist	0.0-1.5: Moist 1.5-2.6: Wet 2.6-6.7: Moist	0.0-6.7: Moist --- ---
172D:												
Buckroe---------	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Dry	0.0-1.2: Dry	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist
Rock outcrop.												

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
172F:												
Buckroe---------	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Dry	0.0-1.2: Dry	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist	0.0-1.2: Moist
Rock outcrop.												
176B:												
Croswell--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Kinross---------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
181E:												
Frohling--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Tokiahok--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
185B:												
McMaster--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
186B:												
Chatham---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
186D:												
Chatham---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
187B:												
Reade----------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Wet	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---
188B:												
Eben----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
188D:												
Eben----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
188E:												
Eben----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
191B:												
Ruse----------	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-0.5: Moist 0.5-1.2: Wet	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---	0.0-1.2: Wet ---
Ensign----------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-0.5: Moist 0.5-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
197B:												
Shoepac---------	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-1.0: Dry 1.0-6.0: Moist 6.0-6.7: Wet	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.0: Moist 6.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---
Trenary---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
198B:												
Shoepac---------	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-5.5: Moist 5.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-1.0: Dry 1.0-6.0: Moist 6.0-6.7: Wet	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.0: Moist 6.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---
Reade----------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Wet	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---
200A:												
Charlevoix------	0.0-1.5: Moist 1.5-7.0: Wet ---	0.0-1.5: Moist 1.5-7.0: Wet ---	0.0-1.5: Moist 1.5-7.0: Wet ---	0.0-0.5: Moist 1.0-7.0: Wet ---	0.0-0.5: Moist 0.5-7.0: Wet ---	0.0-2.0: Moist 2.0-7.0: Wet ---	0.0-2.5: Moist 2.5-7.0: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-7.0: Wet	0.0-2.5: Moist 2.5-7.0: Wet ---	0.0-1.5: Moist 1.5-7.0: Wet ---	0.0-1.0: Moist 1.0-7.0: Wet ---	0.0-1.0: Moist 1.0-7.0: Wet ---
Ensley----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---
202B:												
Sauxhead--------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---	0.0-0.5: Dry 0.5-1.1: Moist	0.0-1.0: Dry 1.0-1.1: Moist	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
206B:												
Traunik---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 1.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
206D:												
Traunik---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 1.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
211B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Abbaye----------	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.0: Moist 2.0-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Dry 1.5-2.7: Moist	0.0-2.7: Moist ---	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---
214B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
214D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
214E:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
221B:												
Jeske----------	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.7: Wet ---	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet
Au Train--------	0.0-2.7: Moist ---	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-2.7: Moist ---	0.0-0.5: Dry 0.5-2.7: Moist	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-1.5: Moist 1.5-2.7: Wet
Gongeau---------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---
225B:												
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
225D:												
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
226B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
226B:												
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
226D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
226E:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
226F:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Cusino----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
227A:												
Halfaday--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
232B:												
Shelldrake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
233B:												
Abbaye----------	0.0-2.7: Moist ---	0.0-2.7: Moist ---	0.0-2.0: Moist 2.0-2.7: Wet	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---	0.0-1.0: Dry 1.0-2.7: Moist	0.0-1.5: Dry 1.5-2.7: Moist	0.0-2.7: Moist ---	0.0-1.0: Moist 1.0-2.7: Wet	0.0-2.0: Moist 2.0-2.7: Wet	0.0-2.7: Moist ---
Zeba----------	0.0-2.0: Moist 2.0-2.8: Wet	0.0-2.0: Moist 2.0-2.8: Wet	0.0-1.5: Moist 1.5-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-0.5: Moist 0.5-2.8: Wet	0.0-2.0: Moist 2.0-2.8: Wet	0.0-2.5: Moist 2.5-2.8: Wet	0.0-2.8: Moist ---	0.0-2.5: Moist 2.5-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-1.0: Moist 1.0-2.8: Wet	0.0-1.5: Moist 1.5-2.8: Wet
234A:												
Levasseur-------	0.0-1.1: Moist ---	0.0-0.5: Moist 0.5-1.1: Wet	0.0-0.5: Moist 0.5-1.1: Wet	0.0-1.1: Wet ---	0.0-0.5: Moist 0.5-1.1: Wet	0.0-1.5: Moist 1.5-1.1: Wet	0.0-1.1: Moist ---	0.0-1.1: Moist ---	0.0-1.5: Moist 1.5-1.1: Wet	0.0-1.0: Moist 1.0-1.1: Wet	0.0-0.5: Moist 0.5-1.1: Wet	0.0-1.0: Moist 1.0-1.1: Wet
Burt----------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-1.6: Moist ---	0.0-1.5: Moist 1.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
235B:												
Sauxhead--------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---	0.0-0.5: Dry 0.5-1.1: Moist	0.0-1.0: Dry 1.0-1.1: Moist	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---
Burt----------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-1.6: Moist ---	0.0-1.5: Moist 1.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
236B:												
Waiska----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
236D:												
Waiska----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
237B:												
Chatham---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Davies----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
239B:												
Longrie---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
Shingleton------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Dry 1.0-1.4: Moist	0.0-1.4: Dry ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---
240F:												
Trout Bay-------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
Gongeau---------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---
Shingleton------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Dry 1.0-1.4: Moist	0.0-1.4: Dry ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---
Rock outcrop.												

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
241:												
Cathro----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Gay----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
242B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
242D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
242F:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
243:												
Markey----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
245B:												
Trout Bay-------	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.0: Moist 1.0-1.6: Wet	0.0-0.5: Moist 0.5-1.6: Wet	0.0-1.6: Wet ---	0.0-1.6: Wet ---	0.0-1.6: Wet ---
Lupton----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
245B:												
Gongeau---------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---
246B:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
246D:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
246E:												
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
248B:												
Escanaba--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
248D:												
Escanaba--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
248E:												
Escanaba--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
249B:												
Sauxhead--------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---	0.0-0.5: Dry 0.5-1.1: Moist	0.0-1.0: Dry 1.0-1.1: Moist	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.0: Moist 1.0-1.4: Wet	0.0-1.4: Moist ---
Skandia---------	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-0.5: Moist 0.5-2.2: Wet	0.0-1.0: Moist 1.0-2.2: Wet	0.0-0.5: Moist 0.5-2.2: Wet	0.0-2.2: Wet ---	0.0-2.2: Wet ---	0.0-2.2: Wet ---
250B:												
Chocolay--------	0.0-2.3: Moist ---	0.0-2.3: Moist ---	0.0-2.0: Moist 2.0-2.3: Wet	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---	0.0-1.0: Dry 1.0-2.3: Moist	0.0-1.5: Dry 1.5-2.3: Moist	0.0-2.3: Moist ---	0.0-1.0: Moist 1.0-2.3: Wet	0.0-2.0: Moist 2.0-2.3: Wet	0.0-2.3: Moist ---
Jacobsville-----	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-0.5: Moist 0.5-3.0: Wet	0.0-1.0: Moist 1.0-3.0: Wet	0.0-2.0: Moist 2.0-3.0: Wet	1.5-3.0: Wet 0.0-1.5: Moist	0.0-3.0: Wet ---	0.0-3.0: Wet ---	0.0-3.0: Wet ---
251B:												
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
251D:												
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
252A:												
Finch----------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
Kinross---------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
254C:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
254E:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
254F:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
255D:												
Wallace---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-2.0: Dry 2.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
256B:												
Whitewash-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
266A:												
Spot----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
Finch----------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
267A:												
Finch----------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---
268C:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Frohling--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
268C:												
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
269E:												
Frohling--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Garlic----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
272C:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Yalmer----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-1.0: Moist 1.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---	0.0-2.0: Dry 2.0-6.7: Moist ---	0.0-3.0: Dry 3.0-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-2.5: Wet 2.5-6.7: Moist	0.0-1.5: Moist 1.5-2.5: Wet 2.5-6.7: Moist	0.0-6.7: Moist --- ---
Frohling--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
275B:												
Munising--------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.0: Moist 1.0-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-1.5: Moist 1.5-2.0: Wet 2.0-6.7: Moist	0.0-6.7: Moist --- ---
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
281E:												
Mongo----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
282B:												
Furlong---------	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.0: Dry 1.0-1.8: Moist	0.0-1.5: Dry 1.5-1.8: Moist	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---
Shingleton------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Dry 1.0-1.4: Moist	0.0-1.4: Dry ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---
282D:												
Furlong---------	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.0: Dry 1.0-1.8: Moist	0.0-1.5: Dry 1.5-1.8: Moist	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---	0.0-1.8: Moist ---
Shingleton------	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.0: Dry 1.0-1.4: Moist	0.0-1.4: Dry ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---	0.0-1.4: Moist ---
284B:												
Steuben---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 1.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
284B:												
Blue Lake--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
284D:												
Steuben----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 1.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
284E:												
Steuben----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 1.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Blue Lake--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
285B:												
Halfaday--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Kinross---------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
286B:												
Greylock--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
287B:												
McMaster--------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Davies----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
290A:												
Namur----------	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Dry	0.0-0.5: Dry	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist
Ruse----------	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-0.5: Moist 0.5-1.5: Wet	0.0-1.0: Moist 1.0-1.5: Wet	0.0-1.5: Moist ---	0.0-1.5: Moist ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---	0.0-1.5: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
292B:												
Mashek----------	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-1.5: Moist 1.5-3.1: Wet 3.1-6.7: Moist	0.0-1.0: Moist 1.0-3.1: Wet 3.1-6.7: Moist	0.0-1.5: Moist 1.5-3.1: Wet 3.1-6.7: Moist	0.0-6.7: Moist --- ---	0.0-1.0: Dry 1.0-6.7: Moist ---	0.0-1.5: Dry 1.5-6.7: Moist ---	0.0-6.7: Moist --- ---	0.0-2.0: Moist 2.0-3.1: Wet 3.1-6.7: Moist	0.0-1.5: Moist 1.5-3.1: Wet 3.1-6.7: Moist	0.0-6.7: Moist --- ---
296D:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
McMillan--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
296E:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
McMillan--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
297B:												
Rubicon---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
297D:												
Rubicon---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
298B:												
Wurtsmith-------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Deford----------	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---
299F:												
Shelldrake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
300F:												
Shelldrake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Dune land.												
301F:												
Cookson---------	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-1.0: Dry 1.0-3.0: Moist	0.0-1.5: Dry 1.5-3.0: Moist	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---	0.0-3.0: Moist ---
Nykanen---------	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---	0.0-1.0: Dry 1.0-1.2: Wet	0.0-1.2: Dry ---	0.0-1.2: Moist ---	0.0-1.0: Moist 1.0-1.2: Wet	0.0-1.2: Moist ---	0.0-1.2: Moist ---
302B:												
Dillingham------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
302B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
302D:												
Dillingham------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
302E:												
Dillingham------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
302F:												
Dillingham------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
303B:												
Kiva----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
303B:												
Trenary---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
303D:												
Kiva----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Trenary---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
303E:												
Kiva----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Trenary---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.0: Dry 1.0-6.7: Moist	0.0-1.5: Dry 1.5-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
305B:												
Wurtsmith-------	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-5.0: Moist 5.0-6.7: Wet ---	0.0-2.5: Moist 2.5-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-3.5: Moist 3.5-6.7: Wet ---	0.0-1.5: Dry 1.5-4.5: Moist 4.5-6.7: Wet	0.0-2.5: Dry 2.5-5.5: Moist 5.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-3.0: Moist 3.0-6.7: Wet ---	0.0-4.0: Moist 4.0-6.7: Wet ---
Meehan----------	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-0.5: Dry 0.5-3.0: Moist 3.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.0: Moist 1.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
306C:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
Tokiahok--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Jeske----------	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.5: Moist 1.5-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet	0.0-0.5: Moist 0.5-1.7: Wet	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.7: Moist ---	0.0-1.0: Moist 1.0-1.7: Wet	0.0-1.0: Moist 1.0-1.7: Wet	0.0-1.5: Moist 1.5-1.7: Wet
307B:												
Rubicon---------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
307D:												
Rubicon---------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
308B:												
Rubicon---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Sultz----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
308D:												
Rubicon---------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Sultz----------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
309B:												
Rubicon---------	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-4.8: Moist 4.8-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-5.2: Moist 5.2-15.0: Wet ---	0.0-2.0: Dry 2.0-6.2: Moist 6.2-15.0: Wet	0.0-3.0: Dry 3.0-7.2: Moist 7.2-15.0: Wet	0.0-6.2: Moist 6.2-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-5.7: Moist 5.7-15.0: Wet ---
309D:												
Rubicon---------	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-4.8: Moist 4.8-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-5.2: Moist 5.2-15.0: Wet ---	0.0-2.0: Dry 2.0-6.2: Moist 6.2-15.0: Wet	0.0-3.0: Dry 3.0-7.2: Moist 7.2-15.0: Wet	0.0-6.2: Moist 6.2-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-5.7: Moist 5.7-15.0: Wet ---
310B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
310D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
310E:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
311B:												
Kalkaska--------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
311D:												
Kalkaska--------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
312B:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
312D:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
313B:												
Kalkaska--------	0.0-7.3: Moist 7.3-15.0: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
314B:												
Blue Lake-------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-9.4: Moist 9.4-15.0: Wet ---	0.0-7.9: Moist 7.9-15.0: Wet ---	0.0-7.9: Moist 7.9-15.0: Wet ---	0.0-8.9: Moist 8.9-15.0: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
315B:												
Blue Lake-------	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-4.8: Moist 4.8-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-5.2: Moist 5.2-15.0: Wet ---	0.0-2.0: Dry 2.0-6.2: Moist 6.2-15.0: Wet	0.0-3.0: Dry 3.0-7.2: Moist 7.2-15.0: Wet	0.0-6.2: Moist 6.2-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-5.7: Moist 5.7-15.0: Wet ---
316B:												
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
316D:												
Blue Lake-------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
317B:												
Kalkaska--------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
317D:												
Kalkaska--------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---
318B:												
Islandlake------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
318D:												
Islandlake------	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-9.7: Moist 9.7-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-9.2: Moist 9.2-15.0: Wet ---	0.0-10.5: Moist 10.5-15.0: Wet ---	0.0-2.0: Dry 2.0-12.4: Moist 12.4-15.0: Wet	0.0-3.0: Dry 3.0-12.5: Moist 12.5-15.0: Wet	0.0-9.4: Moist 9.4-15.0: Wet ---	0.0-7.9: Moist 7.9-15.0: Wet ---	0.0-7.9: Moist 7.9-15.0: Wet ---	0.0-8.9: Moist 8.9-15.0: Wet ---
319B:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
319D:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
319E:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
319F:												
Islandlake------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
320B:												
Kalkaska--------	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-7.3: Moist 7.3-15.0: Wet ---	0.0-4.8: Moist 4.8-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-4.3: Moist 4.3-15.0: Wet ---	0.0-5.2: Moist 5.2-15.0: Wet ---	0.0-2.0: Dry 2.0-6.2: Moist 6.2-15.0: Wet	0.0-3.0: Dry 3.0-7.2: Moist 7.2-15.0: Wet	0.0-6.2: Moist 6.2-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-4.7: Moist 4.7-15.0: Wet ---	0.0-5.7: Moist 5.7-15.0: Wet ---
321B:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October	November	December
321B:												
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---
321D:												
Kalkaska--------	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-2.0: Dry 2.0-6.7: Moist	0.0-3.0: Dry 3.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Deerton---------	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.0: Dry 2.0-2.1: Moist	0.0-2.1: Dry ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---	0.0-2.1: Moist ---

Table 21.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
10:										
Beaches	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
11C:										
Deer Park	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
11E:										
Deer Park	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
11F:										
Deer Park	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
12B:										
Rubicon	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
12D:										
Rubicon	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
12E:										
Rubicon	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
13B:										
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
13D:										
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
13E:										
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
15A:										
Croswell	A	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
16A:										
Paquin	A	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
17A:										
Au Gres----------	B	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
18:										
Kinross----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	None
		Apr	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		May	0.5	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
19:										
Deford----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
21A:										
Ingalls----------	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
24B:										
Munising----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
25B:										
Munising----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Yalmer----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.5	Perched	---	---	None	---	None
		Apr	1.0	2.5	Perched	---	---	None	---	None
		May	1.5	2.5	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.5	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
25D:										
Munising----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.5	Perched	---	---	None	---	None
		Apr	1.0	2.5	Perched	---	---	None	---	None
		May	1.5	2.5	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.5	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Yalmer----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.5	Perched	---	---	None	---	None
		Apr	1.0	2.5	Perched	---	---	None	---	None
		May	1.5	2.5	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.5	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
31D:										
Trenary----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
33:										
Ensley----------	B/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Jul	1.0	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct	0.5	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
35B:										
Munising, calcareous substratum----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
35B:										
Yalmer, calcareous substratum	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.5	Perched	---	---	None	---	None
		Apr	1.0	2.5	Perched	---	---	None	---	None
		May	1.5	2.5	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.5	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Frohling, calcareous substratum	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
37B:										
Grand Sable	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
37E:										
Grand Sable	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
38B:										
Rhody	D	Jan-Feb	0.0	3.0	Perched	---	---	None	---	None
		Mar	0.0	3.0	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	3.0	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	3.0	Perched	---	---	None	---	None
		Jul	1.0	3.0	Perched	---	---	None	---	None
		Aug	2.0	3.0	Perched	---	---	None	---	None
		Sep	1.5	3.0	Perched	---	---	None	---	None
		Oct-Nov	0.0	3.0	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	3.0	Perched	---	---	None	---	None
Towes	C	Jan-Feb	2.0	2.2	Perched	---	---	None	---	None
		Mar	1.5	2.2	Perched	---	---	None	---	None
		Apr	1.0	2.2	Perched	---	---	None	---	None
		May	0.5	2.2	Perched	---	---	None	---	None
		Jun	2.0	2.2	Perched	---	---	None	---	None
		Jul-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	2.2	Perched	---	---	None	---	None
		Dec	1.5	2.2	Perched	---	---	None	---	None
40B:										
Waiska, very stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
42:										
Davies	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
46:										
Jacobsville, very stony----------	D	Jan-Feb	0.0	3.0	Perched	---	---	None	---	None
		Mar	0.0	3.0	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	3.0	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	3.0	Perched	---	---	None	---	None
		Jul	1.0	3.0	Perched	---	---	None	---	None
		Aug	2.0	3.0	Perched	---	---	None	---	None
		Sep	1.5	3.0	Perched	---	---	None	---	None
		Oct-Nov	0.0	3.0	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	3.0	Perched	---	---	None	---	None
47C:										
Deerton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Au Train----------	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Mar	1.5	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	1.5	2.7	Perched	---	---	None	---	None
		Jun-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep-Oct	1.5	2.7	Perched	---	---	None	---	None
		Nov	1.0	2.7	Perched	---	---	None	---	None
		Dec	1.5	2.7	Perched	---	---	None	---	None
47E:										
Deerton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Au Train----------	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Mar	1.5	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	1.5	2.7	Perched	---	---	None	---	None
		Jun-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep-Oct	1.5	2.7	Perched	---	---	None	---	None
		Nov	1.0	2.7	Perched	---	---	None	---	None
		Dec	1.5	2.7	Perched	---	---	None	---	None
48:										
Burt----------	D	Jan-Feb	0.0	1.6	Perched	---	---	None	---	None
		Mar	0.0	1.6	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.6	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.6	Perched	---	---	None	---	None
		Jul	1.0	1.6	Perched	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.6	Perched	---	---	None	---	None
		Oct-Nov	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.6	Perched	---	---	None	---	None
49B:										
Cookson----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
51:										
Nahma----------	D	Jan-Feb	0.0	2.5	Perched	---	---	None	---	None
		Mar	0.0	2.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	2.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	2.5	Perched	---	---	None	---	None
		Jul	1.0	2.5	Perched	---	---	None	---	None
		Aug	2.0	2.5	Perched	---	---	None	---	None
		Sep	1.5	2.5	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	2.5	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
51:										
Ruse	D	Jan-Feb	0.0	1.2	Perched	---	---	None	---	None
		Mar	0.0	1.2	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.2	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.2	Perched	---	---	None	---	None
		Jul	1.0	1.2	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	0.0	1.2	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.2	Perched	---	---	None	---	None
52B:										
Summerville	D	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
57:										
Carbondale	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Lupton	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Tawas	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
58:										
Dawson	D	Jan-Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Aug	0.5	>6.0	Apparent	---	---	None	---	None
		Sep	0.0	>6.0	Apparent	---	---	None	---	None
		Oct	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Dec	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
Greenwood	D	Jan-Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Aug	0.5	>6.0	Apparent	---	---	None	---	None
		Sep	0.0	>6.0	Apparent	---	---	None	---	None
		Oct	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Dec	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
58:										
Loxley----------	D	Jan-Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Aug	0.5	>6.0	Apparent	---	---	None	---	None
		Sep	0.0	>6.0	Apparent	---	---	None	---	None
		Oct	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Dec	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
59:										
Chippeny----------	B/D	Jan-Feb	0.0	2.3	Perched	---	---	None	---	None
		Mar	0.0	2.3	Perched	0.0-0.5	Brief	Occasional	---	None
		Apr-May	0.0	2.3	Perched	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	2.3	Perched	---	---	None	---	None
		Jul	1.0	2.3	Perched	---	---	None	---	None
		Aug	2.0	2.3	Perched	---	---	None	---	None
		Sep	1.5	2.3	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.3	Perched	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	2.3	Perched	---	---	None	---	None
Nahma----------	D	Jan-Feb	0.0	2.5	Perched	---	---	None	---	None
		Mar	0.0	2.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	2.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	2.5	Perched	---	---	None	---	None
		Jul	1.0	2.5	Perched	---	---	None	---	None
		Aug	2.0	2.5	Perched	---	---	None	---	None
		Sep	1.5	2.5	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	2.5	Perched	---	---	None	---	None
60:										
Histosols----------	D	Jan-Dec	0.0	>6.0	Apparent	0.0-1.0	Very long	Frequent	---	None
Aquents----------	D	Jan-Dec	0.0	>6.0	Apparent	0.0-1.0	Very long	Frequent	---	None
61:										
Pits----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
62F:										
Udipsamments----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Udorthents----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
64B:										
Kiva----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
64D:										
Kiva----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
65D:										
Jeske, bedrock terrace	D	Jan	1.0	1.7	Perched	---	---	None	---	None
		Feb-Mar	0.5	1.7	Perched	---	---	None	---	None
		Apr	0.0	1.7	Perched	---	---	None	---	None
		May	0.5	1.7	Perched	---	---	None	---	None
		Jun	1.5	1.7	Perched	---	---	None	---	None
		Jul-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.7	Perched	---	---	None	---	None
		Oct	1.0	1.7	Perched	---	---	None	---	None
		Nov	0.5	1.7	Perched	---	---	None	---	None
		Dec	1.0	1.7	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
65D:										
Gongeau, bedrock terrace----------	D	Jan-May	0.0	1.5	Perched	---	---	None	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	0.0	1.5	Perched	---	---	None	---	None
Deerton, bedrock terrace----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
65F:										
Jeske, bedrock terrace	D	Jan	1.0	1.7	Perched	---	---	None	---	None
		Feb-Mar	0.5	1.7	Perched	---	---	None	---	None
		Apr	0.0	1.7	Perched	---	---	None	---	None
		May	0.5	1.7	Perched	---	---	None	---	None
		Jun	1.5	1.7	Perched	---	---	None	---	None
		Jul-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.7	Perched	---	---	None	---	None
		Oct	1.0	1.7	Perched	---	---	None	---	None
		Nov	0.5	1.7	Perched	---	---	None	---	None
		Dec	1.0	1.7	Perched	---	---	None	---	None
Gongeau, bedrock terrace----------	D	Jan-May	0.0	1.5	Perched	---	---	None	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	0.0	1.5	Perched	---	---	None	---	None
Deerton, bedrock terrace----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
66D:										
Ruse, bedrock terrace	D	Jan-May	0.0	1.1	Perched	---	---	None	---	None
		Jun	0.5	1.1	Perched	---	---	None	---	None
		Jul	1.0	1.1	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	0.0	1.1	Perched	---	---	None	---	None
Ensign, bedrock terrace----------	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May	0.5	1.2	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.2	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Nykanen, bedrock terrace----------	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May-Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	1.2	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	1.2	Perched	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
66F:										
Ruse, bedrock terrace	D	Jan-May	0.0	1.1	Perched	---	---	None	---	None
		Jun	0.5	1.1	Perched	---	---	None	---	None
		Jul	1.0	1.1	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	0.0	1.1	Perched	---	---	None	---	None
Ensign, bedrock terrace----------	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May	0.5	1.2	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.2	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Nykanen, bedrock terrace----------	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May-Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	1.2	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	1.2	Perched	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	None
68.										
Pits, quarry										
69B:										
Escanaba----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
71A:										
Evart----------	D	Jan	0.0	>6.0	Apparent	---	---	None	---	None
		Feb	0.0	>6.0	Apparent	---	---	None	Very brief	Rare
		Mar	0.0	>6.0	Apparent	0.5	Brief	Frequent	Brief	Occasional
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	Long	Frequent
		Jun	0.0	>6.0	Apparent	0.5	Brief	Frequent	Brief	Occasional
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	Brief	Occasional
		Oct	0.0	>6.0	Apparent	0.5	Brief	Frequent	Brief	Occasional
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	Very brief	Rare
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Sturgeon----------	C	Jan	1.5	>6.0	Apparent	---	---	None	---	None
		Feb	1.5	>6.0	Apparent	---	---	None	Very brief	Rare
		Mar	1.5	>6.0	Apparent	---	---	None	Brief	Occasional
		Apr-May	0.5	>6.0	Apparent	---	---	None	Long	Frequent
		Jun	2.0	>6.0	Apparent	---	---	None	Brief	Occasional
		Jul	2.5	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.5	>6.0	Apparent	---	---	None	Brief	Occasional
		Oct	1.5	>6.0	Apparent	---	---	None	Brief	Occasional
		Nov	1.0	>6.0	Apparent	---	---	None	Very brief	Rare
		Dec	1.0	>6.0	Apparent	---	---	None	---	None
72E:										
Deerton, dissected----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Tokiahok, dissected---	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
72E:										
Trout Bay, dissected--	D	Jan-Jun	0.0	1.6	Perched	---	---	None	---	None
		Jul	0.5	1.6	Perched	---	---	None	---	None
		Aug	1.0	1.6	Perched	---	---	None	---	None
		Sep	0.5	1.6	Perched	---	---	None	---	None
		Oct-Dec	0.0	1.6	Perched	---	---	None	---	None
72F:										
Deerton, dissected----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Tokiahok, dissected---	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Trout bay, dissected--	D	Jan-Jun	0.0	1.6	Perched	---	---	None	---	None
		Jul	0.5	1.6	Perched	---	---	None	---	None
		Aug	1.0	1.6	Perched	---	---	None	---	None
		Sep	0.5	1.6	Perched	---	---	None	---	None
		Oct-Dec	0.0	1.6	Perched	---	---	None	---	None
76C:										
Garlic, dissected-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected--	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
76E:										
Garlic, dissected-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected--	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
76F:										
Garlic, dissected-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected--	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
77B:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
77D:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
77E:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Voelker----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
88:										
Cathro----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Ensley----------	B/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Jul	1.0	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct	0.5	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
93:										
Tawas----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Deford----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
95B:										
Liminga----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
104C:										
Fence, dissected------	B	Jan	5.5	>6.0	Apparent	---	---	None	---	None
		Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	3.0	>6.0	Apparent	---	---	None	---	None
		Apr	1.5	>6.0	Apparent	---	---	None	---	None
		May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	4.5	>6.0	Apparent	---	---	None	---	None
		Jul	6.0	>6.0	Apparent	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	6.0	>6.0	Apparent	---	---	None	---	None
		Oct	5.0	>6.0	Apparent	---	---	None	---	None
		Nov	4.5	>6.0	Apparent	---	---	None	---	None
		Dec	5.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
109D:										
Rousseau	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Dawson	D	Jan-Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Aug	0.5	>6.0	Apparent	---	---	None	---	None
		Sep	0.0	>6.0	Apparent	---	---	None	---	None
		Oct	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Dec	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
109F:										
Rousseau	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Dawson	D	Jan-Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Aug	0.5	>6.0	Apparent	---	---	None	---	None
		Sep	0.0	>6.0	Apparent	---	---	None	---	None
		Oct	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Dec	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
125B:										
Stutts	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
125D:										
Stutts	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
125E:										
Stutts	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
135B:										
Munising, calcareous substratum	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Ensley	B/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Jul	1.0	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct	0.5	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
145C:										
Munising, dissected, very stony----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Yalmer, dissected, very stony----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
146B:										
Munising, stony-------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Skanee, stony---------	C	Jan-Feb	5.5	>6.0	Apparent	---	---	None	---	None
		Mar	5.0	>6.0	Apparent	---	---	None	---	None
		Apr	4.5	>6.0	Apparent	---	---	None	---	None
		Apr	0.5	1.2	Perched					
		May	0.5	1.2	Perched	---	---	None	---	None
		May	4.5	>6.0	Apparent					
		Jun	1.0	1.2	Perched	---	---	None	---	None
		Jun	4.5	>6.0	Apparent					
		Jul	5.5	>6.0	Apparent	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	5.5	>6.0	Apparent	---	---	None	---	None
147A:										
Skanee, very stony----	C	Jan-Feb	5.5	>6.0	Apparent	---	---	None	---	None
		Mar	5.0	>6.0	Apparent	---	---	None	---	None
		Apr	4.5	>6.0	Apparent	---	---	None	---	None
		Apr	0.5	1.2	Perched					
		May	0.5	1.2	Perched	---	---	None	---	None
		May	4.5	>6.0	Apparent					
		Jun	1.0	1.2	Perched	---	---	None	---	None
		Jun	4.5	>6.0	Apparent					
		Jul	5.5	>6.0	Apparent	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	5.5	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
147A:										
Gay, very stony-------	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
148B:										
Shoepac----------	B	Jan-Feb	5.5	>6.0	Apparent	---	---	None	---	None
		Mar	3.0	>6.0	Apparent	---	---	None	---	None
		Apr	1.5	>6.0	Apparent	---	---	None	---	None
		May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	4.5	>6.0	Apparent	---	---	None	---	None
		Jul	6.0	>6.0	Apparent	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	6.0	>6.0	Apparent	---	---	None	---	None
		Oct	5.0	>6.0	Apparent	---	---	None	---	None
		Nov	4.5	>6.0	Apparent	---	---	None	---	None
		Dec	5.0	>6.0	Apparent	---	---	None	---	None
Ensley----------	B/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Jul	1.0	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct	0.5	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
155A:										
Zeba, very stony------	C	Jan-Feb	2.0	2.8	Perched	---	---	None	---	None
		Mar	1.5	2.8	Perched	---	---	None	---	None
		Apr	1.0	2.8	Perched	---	---	None	---	None
		May	0.5	2.8	Perched	---	---	None	---	None
		Jun	2.0	2.8	Perched	---	---	None	---	None
		Jul	2.5	2.8	Perched	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	2.5	2.8	Perched	---	---	None	---	None
		Oct-Nov	1.0	2.8	Perched	---	---	None	---	None
		Dec	1.5	2.8	Perched	---	---	None	---	None
Jacobsville, very stony----------	D	Jan-Feb	0.0	3.0	Perched	---	---	None	---	None
		Mar	0.0	3.0	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	3.0	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	3.0	Perched	---	---	None	---	None
		Jul	1.0	3.0	Perched	---	---	None	---	None
		Aug	2.0	3.0	Perched	---	---	None	---	None
		Sep	1.5	3.0	Perched	---	---	None	---	None
		Oct-Nov	0.0	3.0	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	3.0	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
157B:										
Reade----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	2.3	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Nahma----------	D	Jan-Feb	0.0	2.5	Perched	---	---	None	---	None
		Mar	0.0	2.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	2.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	2.5	Perched	---	---	None	---	None
		Jul	1.0	2.5	Perched	---	---	None	---	None
		Aug	2.0	2.5	Perched	---	---	None	---	None
		Sep	1.5	2.5	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	2.5	Perched	---	---	None	---	None
158C:										
Munising, dissected, stony----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Abbaye, dissected, stony----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	2.0	2.7	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.7	Perched	---	---	None	---	None
		Nov	2.0	2.7	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
160B:										
Paquin----------	A	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
160B:										
Finch	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
161B:										
Yellowdog, stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Buckroe, stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
165B:										
Chocolay, very stony	A	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Waiska, very stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
166:										
Skandia	D	Jan-Feb	0.0	2.2	Perched	---	---	None	---	None
		Mar	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	2.2	Perched	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	2.2	Perched	---	---	None	---	None
		Aug	1.0	2.2	Perched	---	---	None	---	None
		Sep	0.5	2.2	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	2.2	Perched	---	---	None	---	None
167:										
Skandia, stony	D	Jan-Feb	0.0	2.2	Perched	---	---	None	---	None
		Mar	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	2.2	Perched	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	2.2	Perched	---	---	None	---	None
		Aug	1.0	2.2	Perched	---	---	None	---	None
		Sep	0.5	2.2	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	2.2	Perched	---	---	None	---	None
Jacobsville, stony	D	Jan-Feb	0.0	3.0	Perched	---	---	None	---	None
		Mar	0.0	3.0	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	3.0	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	3.0	Perched	---	---	None	---	None
		Jul	1.0	3.0	Perched	---	---	None	---	None
		Aug	2.0	3.0	Perched	---	---	None	---	None
		Sep	1.5	3.0	Perched	---	---	None	---	None
		Oct-Nov	0.0	3.0	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	3.0	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
170B:										
Chocolay, very stony--	A	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
171B:										
Paavola, very stony---	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.6	Perched	---	---	None	---	None
		Apr	1.0	2.6	Perched	---	---	None	---	None
		May	1.5	2.6	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.6	Perched	---	---	None	---	None
		Nov	1.5	2.6	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
172D:										
Buckroe, very bouldery	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Rock outcrop.										
172F:										
Buckroe, very bouldery	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Rock outcrop.										
176B:										
Croswell----------	A	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
Kinross----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	None
		Apr	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		May	0.5	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
181E:										
Frohling, dissected, stony----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Tokiahok, dissected, stony----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
185B:										
McMaster	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
186B:										
Chatham, stony	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
186D:										
Chatham, stony	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
187B:										
Reade	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	2.3	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
188B:										
Eben, stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
188D:										
Eben, stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
188E:										
Eben, stony	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
191B:										
Ruse	D	Jan-Feb	0.0	1.2	Perched	---	---	None	---	None
		Mar	0.0	1.2	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.2	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.2	Perched	---	---	None	---	None
		Jul	1.0	1.2	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	0.0	1.2	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.2	Perched	---	---	None	---	None
Ensign	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May	0.5	1.2	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.2	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
197B:										
Shoepac----------	B	Jan-Feb	5.5	>6.0	Apparent	---	---	None	---	None
		Mar	3.0	>6.0	Apparent	---	---	None	---	None
		Apr	1.5	>6.0	Apparent	---	---	None	---	None
		May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	4.5	>6.0	Apparent	---	---	None	---	None
		Jul	6.0	>6.0	Apparent	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	6.0	>6.0	Apparent	---	---	None	---	None
		Oct	5.0	>6.0	Apparent	---	---	None	---	None
		Nov	4.5	>6.0	Apparent	---	---	None	---	None
		Dec	5.0	>6.0	Apparent	---	---	None	---	None
Trenary----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
198B:										
Shoepac----------	B	Jan-Feb	5.5	>6.0	Apparent	---	---	None	---	None
		Mar	3.0	>6.0	Apparent	---	---	None	---	None
		Apr	1.5	>6.0	Apparent	---	---	None	---	None
		May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	4.5	>6.0	Apparent	---	---	None	---	None
		Jul	6.0	>6.0	Apparent	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	6.0	>6.0	Apparent	---	---	None	---	None
		Oct	5.0	>6.0	Apparent	---	---	None	---	None
		Nov	4.5	>6.0	Apparent	---	---	None	---	None
		Dec	5.0	>6.0	Apparent	---	---	None	---	None
Reade----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	2.3	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
200A:										
Charlevoix----------	C	Jan-Mar	1.5	>6.0	Apparent	---	---	None	---	None
		Apr	1.0	>6.0	Apparent	---	---	None	---	None
		May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	2.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.5	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.5	>6.0	Apparent	---	---	None	---	None
		Oct	1.5	>6.0	Apparent	---	---	None	---	None
		Nov-Dec	1.0	>6.0	Apparent	---	---	None	---	None
Ensley----------	B/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Jul	1.0	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct	0.5	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
202B:										
Sauxhead, very stony--	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr-May	1.0	1.4	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.4	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
206B:										
Traunik----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
206D:										
Traunik----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
211B:										
Munising----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Abbaye----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	2.0	2.7	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.7	Perched	---	---	None	---	None
		Nov	2.0	2.7	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
214B:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
214D:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
214E:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
221B:										
Jeske----------	D	Jan	1.0	1.7	Perched	---	---	None	---	None
		Feb-Mar	0.5	1.7	Perched	---	---	None	---	None
		Apr	0.0	1.7	Perched	---	---	None	---	None
		May	0.5	1.7	Perched	---	---	None	---	None
		Jun	1.5	1.7	Perched	---	---	None	---	None
		Jul-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.7	Perched	---	---	None	---	None
		Oct	1.0	1.7	Perched	---	---	None	---	None
		Nov	0.5	1.7	Perched	---	---	None	---	None
		Dec	1.0	1.7	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
221B:										
Au Train----------	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Mar	1.5	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	1.5	2.7	Perched	---	---	None	---	None
		Jun-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep-Oct	1.5	2.7	Perched	---	---	None	---	None
		Nov	1.0	2.7	Perched	---	---	None	---	None
		Dec	1.5	2.7	Perched	---	---	None	---	None
Gongeau----------	D	Jan-Feb	0.0	1.5	Perched	---	---	None	---	None
		Mar	0.0	1.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	0.0	1.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.5	Perched	---	---	None	---	None
225B:										
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
225D:										
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
226B:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
226D:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
226E:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
226F:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cusino----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
227A:										
Halfaday----------	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
232B:										
Shelldrake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
233B:										
Abbaye, very stony----	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.7	Perched	---	---	None	---	None
		Apr	1.0	2.7	Perched	---	---	None	---	None
		May	2.0	2.7	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.7	Perched	---	---	None	---	None
		Nov	2.0	2.7	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Zeba, very stony------	C	Jan-Feb	2.0	2.8	Perched	---	---	None	---	None
		Mar	1.5	2.8	Perched	---	---	None	---	None
		Apr	1.0	2.8	Perched	---	---	None	---	None
		May	0.5	2.8	Perched	---	---	None	---	None
		Jun	2.0	2.8	Perched	---	---	None	---	None
		Jul	2.5	2.8	Perched	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	2.5	2.8	Perched	---	---	None	---	None
		Oct-Nov	1.0	2.8	Perched	---	---	None	---	None
		Dec	1.5	2.8	Perched	---	---	None	---	None
234A:										
Levasseur, very stony	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Mar	0.5	1.1	Perched	---	---	None	---	None
		Apr	0.0	1.1	Perched	---	---	None	---	None
		May	0.5	1.1	Perched	---	---	None	---	None
		Jun	1.5	1.1	Perched	---	---	None	---	None
		Jul-Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.1	Perched	---	---	None	---	None
		Oct	1.0	1.1	Perched	---	---	None	---	None
		Nov	0.5	1.1	Perched	---	---	None	---	None
		Dec	1.0	1.1	Perched	---	---	None	---	None
Burt, very stony------	D	Jan-Feb	0.0	1.6	Perched	---	---	None	---	None
		Mar	0.0	1.6	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.6	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.6	Perched	---	---	None	---	None
		Jul	1.0	1.6	Perched	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.6	Perched	---	---	None	---	None
		Oct-Nov	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.6	Perched	---	---	None	---	None
235B:										
Sauxhead, very stony--	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr-May	1.0	1.4	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.4	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Burt, very stony------	D	Jan-Feb	0.0	1.6	Perched	---	---	None	---	None
		Mar	0.0	1.6	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.6	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.6	Perched	---	---	None	---	None
		Jul	1.0	1.6	Perched	---	---	None	---	None
		Aug	>6.0	>6.0	---	---	---	None	---	None
		Sep	1.5	1.6	Perched	---	---	None	---	None
		Oct-Nov	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.6	Perched	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
236B:										
Waiska, extremely bouldery----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
236D:										
Waiska, extremely bouldery----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
237B:										
Chatham----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Davies----------	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
239B:										
Longrie----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Shingleton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
240F:										
Trout Bay----------	D	Jan-Jun	0.0	1.6	Perched	---	---	None	---	None
		Jul	0.5	1.6	Perched	---	---	None	---	None
		Aug	1.0	1.6	Perched	---	---	None	---	None
		Sep	0.5	1.6	Perched	---	---	None	---	None
		Oct-Dec	0.0	1.6	Perched	---	---	None	---	None
Gongeau----------	D	Jan-May	0.0	1.5	Perched	---	---	None	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Dec	0.0	1.5	Perched	---	---	None	---	None
Shingleton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Rock outcrop.										
241:										
Cathro----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
241:										
Gay	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
242B:										
Kalkaska, severely burned	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
242D:										
Kalkaska, severely burned	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
242F:										
Kalkaska, severely burned	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
243:										
Markey	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
245B:										
Trout Bay	D	Jan-Feb	0.0	1.6	Perched	---	---	None	---	None
		Mar	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Apr-May	0.0	1.6	Perched	0.5	Long	Frequent	---	None
		Jun	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Jul	0.5	1.6	Perched	---	---	None	---	None
		Aug	1.0	1.6	Perched	---	---	None	---	None
		Sep	0.5	1.6	Perched	---	---	None	---	None
		Oct-Nov	0.0	1.6	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.6	Perched	---	---	None	---	None
Lupton	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	>6.0	Apparent	---	---	None	---	None
		Aug	1.0	>6.0	Apparent	---	---	None	---	None
		Sep	0.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
245B:										
Gongeau----------	D	Jan-Feb	0.0	1.5	Perched	---	---	None	---	None
		Mar	0.0	1.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	0.0	1.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.5	Perched	---	---	None	---	None
246B:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
246D:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
246E:										
Garlic----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
248B:										
Escanaba----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Greylock----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
248D:										
Escanaba----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Greylock----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
248E:										
Escanaba----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Greylock----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
249B:										
Sauxhead----------	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr-May	1.0	1.4	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.4	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Skandia----------	D	Jan-Feb	0.0	2.2	Perched	---	---	None	---	None
		Mar	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Apr-May	0.0	2.2	Perched	0.0-0.5	Long	Frequent	---	None
		Jun	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Jul	0.5	2.2	Perched	---	---	None	---	None
		Aug	1.0	2.2	Perched	---	---	None	---	None
		Sep	0.5	2.2	Perched	---	---	None	---	None
		Oct-Nov	0.0	2.2	Perched	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	2.2	Perched	---	---	None	---	None
250B:										
Chocolay, extremely stony----------	A	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	2.0	2.3	Perched	---	---	None	---	None
		Apr	1.0	2.3	Perched	---	---	None	---	None
		May	2.0	2.3	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	2.3	Perched	---	---	None	---	None
		Nov	2.0	2.3	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
250B:										
Jacobsville, extremely stony	D	Jan-Feb	0.0	3.0	Perched	---	---	None	---	None
		Mar	0.0	3.0	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	3.0	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	3.0	Perched	---	---	None	---	None
		Jul	1.0	3.0	Perched	---	---	None	---	None
		Aug	2.0	3.0	Perched	---	---	None	---	None
		Sep	1.5	3.0	Perched	---	---	None	---	None
		Oct-Nov	0.0	3.0	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	3.0	Perched	---	---	None	---	None
251B:										
Greylock	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
251D:										
Greylock	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
252A:										
Finch	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
Kinross	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	None
		Apr	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		May	0.5	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
254C:										
Kalkaska, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
254E:										
Kalkaska, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
254F:										
Kalkaska, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake, dissected	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
255D:										
Wallace	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
256B:										
Whitewash	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
266A:										
Spot----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
Finch----------	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
267A:										
Finch----------	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
268C:										
Munising, calcareous substratum, dissected	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Frohling, calcareous substratum, dissected	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cookson, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
269E:										
Frohling, calcareous substratum, dissected	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Garlic, dissected-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cookson, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
272C:										
Munising, calcareous substratum, dissected	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Yalmer, calcareous substratum, dissected	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.5	Perched	---	---	None	---	None
		Apr	1.0	2.5	Perched	---	---	None	---	None
		May	1.5	2.5	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	2.5	Perched	---	---	None	---	None
		Nov	1.5	2.5	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Frohling, calcareous substratum, dissected	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
275B:										
Munising, calcareous substratum----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	2.0	Perched	---	---	None	---	None
		Apr	1.0	2.0	Perched	---	---	None	---	None
		May	1.5	2.0	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.5	2.0	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
Cookson----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
281E:										
Mongo, dissected------	C	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
282B:										
Furlong----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Shingleton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
282D:										
Furlong----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Shingleton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
284B:										
Steuben----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
284D:										
Steuben----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
284E:										
Steuben----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Blue Lake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
285B:										
Halfaday----------	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
Kinross----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	None
		Apr	0.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		May	0.5	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
286B:										
Greylock----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Cookson----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
287B:										
McMaster----------	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
Davies----------	D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None
290A:										
Namur, very stony-----	D	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
290A:										
Ruse, very stony------	D	Jan-Feb	0.0	1.5	Perched	---	---	None	---	None
		Mar	0.0	1.5	Perched	0.5	Brief	Occasional	---	None
		Apr-May	0.0	1.5	Perched	0.5	Long	Frequent	---	None
		Jun	0.5	1.5	Perched	---	---	None	---	None
		Jul	1.0	1.5	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	0.0	1.5	Perched	0.5	Brief	Frequent	---	None
		Dec	0.0	1.5	Perched	---	---	None	---	None
292B:										
Mashek, sandy substratum----------	B	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	3.1	Perched	---	---	None	---	None
		Apr	1.0	3.1	Perched	---	---	None	---	None
		May	1.5	3.1	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	2.0	3.1	Perched	---	---	None	---	None
		Nov	1.5	3.1	Perched	---	---	None	---	None
		Dec	>6.0	>6.0	---	---	---	None	---	None
296D:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
McMillan----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
296E:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
McMillan----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
297B:										
Rubicon, severely burned----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
297D:										
Rubicon, severely burned----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
298B:										
Wurtsmith----------	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
Deford----------	A/D	Jan-Feb	0.0	>6.0	Apparent	---	---	None	---	None
		Mar	0.0	>6.0	Apparent	0.5	Brief	Occasional	---	None
		Apr-May	0.0	>6.0	Apparent	0.5	Long	Frequent	---	None
		Jun	0.5	>6.0	Apparent	---	---	None	---	None
		Jul	1.5	>6.0	Apparent	---	---	None	---	None
		Aug	2.0	>6.0	Apparent	---	---	None	---	None
		Sep	1.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	0.0	>6.0	Apparent	0.5	Brief	Frequent	---	None
		Dec	0.0	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
299F:										
Shelldrake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
300F:										
Shelldrake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Dune land----------	A	---	>6.0	>6.0	---	---	---	---	---	---
301F:										
Cookson, dissected----	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Nykanen, dissected----	D	Jan-Mar	>6.0	>6.0	---	---	---	None	---	None
		Apr	1.0	1.2	Perched	---	---	None	---	None
		May-Jun	>6.0	>6.0	---	---	---	None	---	None
		Jul	1.0	1.2	Perched	---	---	None	---	None
		Aug-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct	1.0	1.2	Perched	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	None
302B:										
Dillingham----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
302D:										
Dillingham----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
302E:										
Dillingham----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
302F:										
Dillingham----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
303B:										
Kiva----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Trenary----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
303D:										
Kiva----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Trenary----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
303E:										
Kiva----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Trenary----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
305B:										
Wurtsmith----------	B	Jan-Feb	5.0	>6.0	Apparent	---	---	None	---	None
		Mar	2.5	>6.0	Apparent	---	---	None	---	None
		Apr-May	2.0	>6.0	Apparent	---	---	None	---	None
		Jun	3.5	>6.0	Apparent	---	---	None	---	None
		Jul	4.5	>6.0	Apparent	---	---	None	---	None
		Aug	5.5	>6.0	Apparent	---	---	None	---	None
		Sep	4.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	3.0	>6.0	Apparent	---	---	None	---	None
		Dec	4.0	>6.0	Apparent	---	---	None	---	None
Meehan----------	C	Jan-Feb	1.5	>6.0	Apparent	---	---	None	---	None
		Mar	1.0	>6.0	Apparent	---	---	None	---	None
		Apr-May	0.5	>6.0	Apparent	---	---	None	---	None
		Jun	1.0	>6.0	Apparent	---	---	None	---	None
		Jul	2.0	>6.0	Apparent	---	---	None	---	None
		Aug	3.0	>6.0	Apparent	---	---	None	---	None
		Sep	2.0	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	1.0	>6.0	Apparent	---	---	None	---	None
		Dec	1.5	>6.0	Apparent	---	---	None	---	None
306C:										
Deerton, dissected----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Tokiahok, dissected---	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Jeske, dissected------	D	Jan-Feb	>6.0	>6.0	---	---	---	None	---	None
		Mar	1.5	1.7	Perched	---	---	None	---	None
		Apr	1.0	1.7	Perched	---	---	None	---	None
		May	0.5	1.7	Perched	---	---	None	---	None
		Jun-Sep	>6.0	>6.0	---	---	---	None	---	None
		Oct-Nov	1.0	1.7	Perched	---	---	None	---	None
		Dec	1.5	1.7	Perched	---	---	None	---	None
307B:										
Rubicon, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None
307D:										
Rubicon, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None
308B:										
Rubicon----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Sultz----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
308D:										
Rubicon----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Sultz----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
309B:										
Rubicon, deep water table----------	A	Jan-Feb	7.3	>6.0	Apparent	---	---	None	---	None
		Mar	4.8	>6.0	Apparent	---	---	None	---	None
		Apr-May	4.3	>6.0	Apparent	---	---	None	---	None
		Jun	5.2	>6.0	Apparent	---	---	None	---	None
		Jul	6.2	>6.0	Apparent	---	---	None	---	None
		Aug	7.2	>6.0	Apparent	---	---	None	---	None
		Sep	6.2	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	4.7	>6.0	Apparent	---	---	None	---	None
		Dec	5.7	>6.0	Apparent	---	---	None	---	None
309D:										
Rubicon, deep water table----------	A	Jan-Feb	7.3	>6.0	Apparent	---	---	None	---	None
		Mar	4.8	>6.0	Apparent	---	---	None	---	None
		Apr-May	4.3	>6.0	Apparent	---	---	None	---	None
		Jun	5.2	>6.0	Apparent	---	---	None	---	None
		Jul	6.2	>6.0	Apparent	---	---	None	---	None
		Aug	7.2	>6.0	Apparent	---	---	None	---	None
		Sep	6.2	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	4.7	>6.0	Apparent	---	---	None	---	None
		Dec	5.7	>6.0	Apparent	---	---	None	---	None
310B:										
Kalkaska, burned------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
310D:										
Kalkaska, burned------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
310E:										
Kalkaska, burned------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
311B:										
Kalkaska, very deep water table, burned--	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None
311D:										
Kalkaska, very deep water table, burned--	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
312B:										
Islandlake, burned----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
312D:										
Islandlake, burned----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
313B:										
Kalkaska, deep water table, burned-------	A	Jan	7.3	>6.0	Apparent	---	---	None	---	None
		Feb-Dec	>6.0	>6.0	---	---	---	None	---	None
314B:										
Blue Lake, very deep water table, burned--	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	9.4	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	7.9	>6.0	Apparent	---	---	None	---	None
		Dec	8.9	>6.0	Apparent	---	---	None	---	None
315B:										
Blue Lake, deep water table, burned--------	A	Jan-Feb	7.3	>6.0	Apparent	---	---	None	---	None
		Mar	4.8	>6.0	Apparent	---	---	None	---	None
		Apr-May	4.3	>6.0	Apparent	---	---	None	---	None
		Jun	5.2	>6.0	Apparent	---	---	None	---	None
		Jul	6.2	>6.0	Apparent	---	---	None	---	None
		Aug	7.2	>6.0	Apparent	---	---	None	---	None
		Sep	6.2	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	4.7	>6.0	Apparent	---	---	None	---	None
		Dec	5.7	>6.0	Apparent	---	---	None	---	None
316B:										
Blue Lake, burned-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
316D:										
Blue Lake, burned-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
317B:										
Kalkaska, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
317D:										
Kalkaska, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None
318B:										
Islandlake, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	10.5	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	9.2	>6.0	Apparent	---	---	None	---	None
		Dec	10.5	>6.0	Apparent	---	---	None	---	None
318D:										
Islandlake, very deep water table----------	A	Jan-Feb	10.5	>6.0	Apparent	---	---	None	---	None
		Mar	9.7	>6.0	Apparent	---	---	None	---	None
		Apr-May	9.2	>6.0	Apparent	---	---	None	---	None
		Jun	10.5	>6.0	Apparent	---	---	None	---	None
		Jul	12.4	>6.0	Apparent	---	---	None	---	None
		Aug	12.5	>6.0	Apparent	---	---	None	---	None
		Sep	9.4	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	7.9	>6.0	Apparent	---	---	None	---	None
		Dec	8.9	>6.0	Apparent	---	---	None	---	None
319B:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
319D:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
319E:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
319F:										
Islandlake----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
320B:										
Kalkaska, deep water table----------	A	Jan-Feb	7.3	>6.0	Apparent	---	---	None	---	None
		Mar	4.8	>6.0	Apparent	---	---	None	---	None
		Apr-May	4.3	>6.0	Apparent	---	---	None	---	None
		Jun	5.2	>6.0	Apparent	---	---	None	---	None
		Jul	6.2	>6.0	Apparent	---	---	None	---	None
		Aug	7.2	>6.0	Apparent	---	---	None	---	None
		Sep	6.2	>6.0	Apparent	---	---	None	---	None
		Oct-Nov	4.7	>6.0	Apparent	---	---	None	---	None
		Dec	5.7	>6.0	Apparent	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
321B:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Deerton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
321D:										
Kalkaska----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Deerton----------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 22.--Classification of the Soils

Soil name	Family or higher taxonomic class
Abbaye	Coarse-loamy, mixed, active, frigid Alfic Oxyaquic Haplorthods
Au Gres	Sandy, mixed, frigid Typic Endoaquods
Au Train	Sandy, isotic, frigid, shallow Oxyaquic Haplorthods
Blue Lake	Sandy, mixed, frigid Lamellic Haplorthods
Buckroe	Sandy-skeletal, mixed, frigid Lithic Udorthents
Burt	Siliceous, frigid Lithic Psammaquents
Carbondale	Euic, frigid Hemic Haplosaprists
Cathro	Loamy, mixed, euic, frigid Terric Haplosaprists
Charlevoix	Coarse-loamy, mixed, semiactive, frigid Argic Endoaquods
Chatham	Loamy-skeletal, mixed, active, frigid Typic Dystrudepts
Chippeny	Euic, frigid Lithic Haplosaprists
Chocolay	Loamy-skeletal, mixed, superactive, frigid Oxyaquic Haplorthods
Cookson	Coarse-loamy, mixed, superactive, frigid Alfic Haplorthods
Croswell	Sandy, mixed, frigid Oxyaquic Haplorthods
Cusino	Sandy, isotic, frigid Typic Haplorthods
Davies	Sandy-skeletal, mixed, frigid Typic Endoaquepts
Dawson	Sandy or sandy-skeletal, mixed, dysic, frigid Terric Haplosaprists
Deer Park	Mixed, frigid Spodic Udipsamments
Deerton	Sandy, mixed, frigid Typic Haplorthods
Deford	Mixed, frigid Typic Psammaquents
Dillingham	Sandy, isotic, frigid Typic Fragiorthods
Eben	Sandy-skeletal, mixed, frigid Typic Hapludolls
Ensign	Loamy, mixed, superactive, frigid Lithic Eutrudepts
Ensley	Coarse-loamy, mixed, active, nonacid, frigid Aeric Endoaquents
Escanaba	Sandy over loamy, mixed, superactive, frigid Alfic Haplorthods
Evart	Sandy, mixed, frigid Fluvaquentic Endoaquolls
Fence	Coarse-silty, mixed, superactive, frigid Alfic Oxyaquic Haplorthods
Finch	Sandy, mixed, frigid, shallow, ortstein Typic Duraquods
Frohling	Coarse-loamy, mixed, active, frigid Alfic Fragiorthods
Furlong	Sandy, mixed, frigid Typic Haplorthods
Garlic	Sandy, mixed, frigid, ortstein Typic Haplorthods
Gay	Coarse-loamy, mixed, active, nonacid, frigid Aeric Endoaquepts
Gongeau	Siliceous, frigid, shallow Typic Psammaquents
Grand Sable	Sandy, aniso, isotic, frigid Typic Udorthents
Greenwood	Dysic, frigid Typic Haplohemists
Greylock	Coarse-loamy, mixed, active, frigid Alfic Haplorthods
Halfaday	Sandy, mixed, frigid Oxyaquic Haplorthods
Ingalls	Sandy over loamy, mixed, active, frigid Typic Endoaquods
Islandlake	Sandy, mixed, frigid Lamellic Haplorthods
Jacobsville	Coarse-loamy, mixed, active, nonacid, frigid Aeric Endoaquepts
Jeske	Siliceous, acid, frigid, shallow Typic Psammaquents
Kalkaska	Sandy, isotic, frigid Typic Haplorthods
Kinross	Sandy, mixed, frigid Typic Endoaquods
Kiva	Sandy, mixed, frigid Entic Haplorthods
Levasseur	Siliceous, frigid Lithic Psammaquents
Liminga	Sandy, mixed, frigid Typic Haplorthods
Longrie	Coarse-loamy, mixed, superactive, frigid Typic Haplorthods
Loxley	Dysic, frigid Typic Haplosaprists
Lupton	Euic, frigid Typic Haplosaprists
Markey	Sandy or sandy-skeletal, mixed, euic Terric Haplosaprists
Mashek	Coarse-loamy, mixed, active, frigid Alfic Oxyaquic Haplorthods
McMaster	Sandy-skeletal, mixed, frigid Oxyaquic Haplorthods
McMillan	Sandy, mixed, frigid Lamellic Haplorthods
Meehan	Mixed, frigid Aquic Udipsamments
Mongo	Fine, mixed, semiactive, frigid Haplic Glossudalfs
Munising	Coarse-loamy, mixed, active, frigid Alfic Oxyaquic Fragiorthods
Nahma	Coarse-loamy, mixed, active, nonacid, frigid Histic Humaquepts
Namur	Loamy, mixed, semiactive, frigid Lithic Hapludolls
Nykanen	Coarse-loamy, isotic, frigid Oxyaquic Eutrudepts
Paavola	Sandy-skeletal, mixed, frigid Alfic Oxyaquic Fragiorthods
Paquin	Sandy, mixed, frigid, shallow, ortstein Typic Durorthods
Reade	Coarse-loamy, mixed, superactive, frigid Alfic Oxyaquic Haplorthods
Rhody	Coarse-silty over sandy or sandy-skeletal, mixed, active, frigid Typic Endoaquolls

Table 22.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Rousseau	Sandy, mixed, frigid Entic Haplorthods
Rubicon	Sandy, mixed, frigid Entic Haplorthods
Ruse	Loamy, mixed, active, frigid Lithic Endoaquolls
Sauxhead	Sandy-skeletal, mixed, frigid Lithic Udorthents
Shelldrake	Frigid, uncoated Typic Quartzipsamments
Shingleton	Sandy, mixed, frigid Lithic Haplorthods
Shoepac	Coarse-loamy, mixed, superactive, frigid Alfic Oxyaquic Haplorthods
Skandia	Dysic, frigid Lithic Haplosaprists
Skanee	Coarse-loamy, mixed, active, frigid Argic Fragiaquods
Spot	Sandy, mixed, frigid, shallow, ortstein Typic Duraquods
Steuben	Coarse-loamy, mixed, active, frigid Alfic Fragiorthods
Sturgeon	Coarse-silty over sandy or sandy-skeletal, mixed, superactive, nonacid, frigid Aquic Udifluvents
Stutts	Sandy, isotic, frigid Typic Haplorthods
Sultz	Sandy, mixed, frigid Entic Haplorthods
Summerville	Loamy, mixed, active, frigid Lithic Eutrudepts
Tawas	Sandy or sandy-skeletal, mixed, euic, frigid Terric Haplosaprists
Tokiahok	Sandy, mixed, frigid Alfic Fragiorthods
Towes	Coarse-silty over sandy or sandy-skeletal, mixed, active, frigid Aquic Hapludolls
Traunik	Sandy-skeletal, mixed, frigid Typic Haplorthods
Trenary	Coarse-loamy, mixed, semiactive, frigid Alfic Haplorthods
Trout Bay	Euic, frigid Lithic Haplosaprists
Voelker	Sandy, mixed, frigid, shallow, ortstein Typic Durorthods
Waiska	Sandy-skeletal, mixed, frigid Typic Haplorthods
Wallace	Sandy, mixed, frigid, shallow, ortstein Typic Durorthods
Whitewash	Sandy, mixed, frigid Typic Udifluvents
Wurtsmith	Mixed, frigid Oxyaquic Udipsamments
Yalmer	Sandy, mixed, frigid Alfic Oxyaquic Fragiorthods
Yellowdog	Sandy-skeletal, mixed, frigid Typic Udorthents
Zeba	Coarse-loamy, mixed, active, frigid Argic Endoaquods

Interpretive Groups

Interpretive Groups

(Unless otherwise indicated, a complex is treated as a single management unit in the Land capability classification column. See text for definitions of the groups. Absence of an entry indicates that the map unit is not suited to the intended use or that an interpretive group is not assigned)

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
10---------- Beaches	8	None assigned	Not prime farmland	Not applicable	None assigned
11C---------- Deer Park	7s	5.3a	Not prime farmland	Not hydric	PVC/QAE
11E---------- Deer Park	7s	5.3a	Not prime farmland	Not hydric	PVC/QAE
11F---------- Deer Park	7s	5.3a	Not prime farmland	Not hydric	PVC/QAE
12B---------- Rubicon	6s	5.3a	Not prime farmland	Not hydric	AQV/QAE
12D---------- Rubicon	7s	5.3a	Not prime farmland	Not hydric	AQV/QAE
12E---------- Rubicon	7s	5.3a	Not prime farmland	Not hydric	AQV/QAE
13B---------- Kalkaska	4s	5a	Not prime farmland	Not hydric	ATD-D
13D---------- Kalkaska	6s	5a	Not prime farmland	Not hydric	ATD-D
13E---------- Kalkaska	7s	5a	Not prime farmland	Not hydric	ATD-D
15A---------- Croswell	4s	5a	Not prime farmland	Not hydric	AQV
16A---------- Paquin	6s	5a-h	Not prime farmland	Not hydric	ATD-D/TMC
17A---------- Au Gres	4w	5b	Not prime farmland	Not hydric	TMC-V
18---------- Kinross	6w	5c-a	Not prime farmland	Hydric	TTS
19---------- Deford	5w	4c	Not prime farmland	Hydric	FMC/TMC
21A---------- Ingalls	3w	4/2b	Prime farmland*	Not hydric	TMC-D
24B---------- Munising	2e	3a-af	Not prime farmland	Not hydric	ATD
25B----------	2e		Not prime farmland		
Munising----------		3a-af		Not hydric	ATD
Yalmer----------		4a-a		Not hydric	ATD

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
25D	4e		Not prime farmland		
Munising		3a-af		Not hydric	ATD
Yalmer		4a-a		Not hydric	ATD
31D	3e	3a	Prime farmland	Not hydric	AVO
Trenary					
33	5w	3c	Prime farmland*	Hydric	FI/TTM
Ensley					
35B	2e		Not prime farmland		
Munising, calcareous substratum		3a-af		Not hydric	ATD/AVO
Yalmer, calcareous substratum		4a-a		Not hydric	ATD/AVO
Frohling, calcareous substratum		3a-f		Not hydric	ATD/AVO
37B	2e	4a	Not prime farmland	Not hydric	ATD/AVO
Grand Sable					
37E	6e	4a	Not prime farmland	Not hydric	AVO
Grand Sable					
38B	5w		Not prime farmland		
Rhody		Rbc		Hydric	TTM
Towes		2/Rbc		Not hydric	ATD-CI
40B	4s	Ga	Not prime farmland	Not hydric	ATD
Waiska, very stony					
42	5w	5c	Not prime farmland	Not hydric	FI
Davies					
46	5w	3/Rbc	Not prime farmland	Hydric	TMC/TTM
Jacobsville, very stony					
47C	6s		Not prime farmland		
Deerton		4/Ra		Not hydric	ATD-D
Au Train		4/Ra		Not hydric	ATD-D
47E	7s		Not prime farmland		
Deerton		4/Ra		Not hydric	ATD-D
Au Train		4/Ra		Not hydric	ATD-D
48	3w	Rbc	Not prime farmland	Hydric	TMC/TTM
Burt					
49B	2e	3/Ra	Prime farmland	Not hydric	AVO
Cookson					
51	5w		Not prime farmland		
Nahma		3/Rbc		Hydric	TTM
Ruse		Rbc		Hydric	TTM
52B	2e	Ra	Not prime farmland	Not hydric	AVO-A
Summerville					

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
57	6w		Not prime farmland		
Carbondale		Mc		Hydric	TTM/TTS
Lupton		Mc		Hydric	TTM/TTS
Tawas		M/4c		Hydric	TTM
58	7w		Not prime farmland		
Dawson		M/4c-a		Hydric	PCS
Greenwood		Mc-a		Hydric	PCS
Loxley		Mc-a		Hydric	PCS
59	6w		Not prime farmland		
Chippeny		M/Rc		Hydric	TTM/TTS
Nahma		3/Rbc		Hydric	TTM/TTS
60	8w		Not prime farmland		
Histosols		None assigned		Hydric	None assigned
Aquents		None assigned		Hydric	None assigned
61. Pits					
62F. Udipsamments and Udorthents					
64B	2e	4a	Not prime farmland	Not hydric	AVO
Kiva					
64D	3e	4a	Not prime farmland	Not hydric	AVO
Kiva					
65D	5w		Not prime farmland		
Jeske, bedrock terrace		Rbc		Not hydric	TMC
Gongeau, bedrock terrace		4/Rbc		Hydric	TMC
Deerton, bedrock terrace		4/Ra		Not hydric	ATD-D
65F	7s		Not prime farmland		
Jeske, bedrock terrace		Rbc		Not hydric	TMC
Gongeau, bedrock terrace		4/Rbc		Hydric	TMC-D
Deerton, bedrock terrace		4/Ra		Not hydric	ATD-D
66D	4e		Not prime farmland		
Ruse, bedrock terrace		Rbc		Hydric	AVO-CI
Ensign, bedrock terrace		Rbc		Not hydric	AVO-CI
Nykanen, bedrock terrace		Ra		Not hydric	AVO-A
66F	3w		Not prime farmland		
Ruse, bedrock terrace		Rbc		Hydric	AVO-CI
Ensign, bedrock terrace		Rbc		Not hydric	AVO-CI
Nykanen, bedrock terrace		Ra		Not hydric	AVO-A
68. Pits, quarry					
69B	3s	4/2a	Not prime farmland	Not hydric	ATD/AVO
Escanaba					
71A	5w		Not prime farmland		
Evart		L-4c		Hydric	FMC
Sturgeon		L-2b		Not hydric	ATD-CI

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
72E	6w		Not prime farmland		
Deerton, dissected		4/Ra		Not hydric	ATD-D
Tokiahok, dissected		4a-af		Not hydric	ATD-D
Trout Bay, dissected		M/Rc		Hydric	ATD-CI
72F	7s		Not prime farmland		
Deerton, dissected		4/Ra		Not hydric	ATD-D
Tokiahok, dissected		4a-af		Not hydric	ATD-D
Trout Bay, dissected		M/Rc		Hydric	ATD-CI
76C	6s		Not prime farmland		
Garlic, dissected		5.3a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D
Voelker, dissected		4a-h		Not hydric	ATD-D
76E	7s		Not prime farmland		
Garlic, dissected		5.3a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D
Voelker, dissected		4a-h		Not hydric	ATD-D
76F	7s		Not prime farmland		
Garlic, dissected		5.3a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D
Voelker, dissected		4a-h		Not hydric	ATD-D
77B	3s		Not prime farmland		
Garlic		5.3a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
Voelker		4a-h		Not hydric	ATD-D
77D	6s		Not prime farmland		
Garlic		5.3a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
Voelker		4a-h		Not hydric	ATD-D
77E	6e		Not prime farmland		
Garlic		5.3a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
Voelker		4a-h		Not hydric	ATD-D
88	6w		Not prime farmland		
Cathro		M/3c		Hydric	TTM
Ensley		3c		Hydric	FI
93	6w		Not prime farmland		
Tawas		M/4c		Hydric	TTM
Deford		4c		Hydric	TMC
95B	3s	5a	Not prime farmland	Not hydric	ATD
Liminga					
104C	3e	3a	Not prime farmland	Not hydric	ATD
Fence, dissected					
109D	4e		Not prime farmland		
Rousseau		5a		Not hydric	QAE
Dawson		M/4c-a		Hydric	PCS

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
109F	7e		Not prime farmland		
Rousseau		5a		Not hydric	AQV
Dawson		M/4c-a		Hydric	PCS
125B	4e		Not prime farmland		
Stutts		4a		Not hydric	ATD
Kalkaska		4a		Not hydric	ATD
125D	4e		Not prime farmland		
Stutts		4a		Not hydric	ATD
Kalkaska		4a		Not hydric	ATD
125E	4e		Not prime farmland		
Stutts		4a		Not hydric	ATD
Kalkaska		4a		Not hydric	ATD
135B	5w		Not prime farmland		
Munising, calcareous substratum		3a-af		Not hydric	ATD/AVO
Ensley		3c		Hydric	FI
145C	6s		Not prime farmland		
Munising, dissected, very stony		3a-af		Not hydric	ATD
Yalmer, dissected, very stony		4a-a		Not hydric	ATD
146B	4w		Not prime farmland		
Munising, stony		3a-af		Not hydric	ATD
Skanee, stony		3b-a		Not hydric	TMC
147A	5w		Not prime farmland		
Skanee, very stony		3b-a		Not hydric	TMC
Gay, very stony		3c		Hydric	TMC/FMC
148B	3s		Prime farmland*		
Shoepac		3a		Not hydric	ATD/AVO
Ensley		3c		Hydric	FI
155A	3s		Not prime farmland		
Zeba, very stony		3/Rbc		Not hydric	TMC
Jacobsville, very stony		3/Rbc		Hydric	TMC/FI
157B	5w		Not prime farmland		
Reade		3/Ra		Not hydric	AVO
Nahma		3/Rbc		Hydric	TTM
158C	3e		Not prime farmland		
Munising, dissected, stony		3a-af		Not hydric	ATD
Abbaye, dissected, stony		3/Ra		Not hydric	ATD
160B	6s		Not prime farmland		
Paquin		5a-h		Not hydric	ATD-D
Finch		5b-h		Not hydric	TMC-V
161B	6s		Not prime farmland		
Yellowdog, stony		4/Ra		Not hydric	ATD-D
Buckroe, stony		Ra		Not hydric	ATD-D

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
165B	6s		Not prime farmland		
Chocolay, very stony		3/Ra		Not hydric	ATD
Waiska, very stony		Ga		Not hydric	ATD
166	7w	M/Rc	Not prime farmland	Hydric	PCS/PO
Skandia					
167	7w		Not prime farmland		
Skandia, stony		M/Rc		Hydric	PO
Jacobsville, stony		3/Rbc		Hydric	TMC
170B	6s	3/Ra	Not prime farmland	Not hydric	ATD
Chocolay, very stony					
171B	6s	Ga	Not prime farmland	Not hydric	ATD
Paavola, very stony					
172D	8s		Not prime farmland		
Buckroe, very bouldery		Ra		Not hydric	ATD-D
Rock outcrop.					
172F	8s		Not prime farmland		
Buckroe, very bouldery		Ra		Not hydric	ATD-D
Rock outcrop.					
176B	4s		Not prime farmland		
Croswell		5a		Not hydric	AQV
Kinross		5c-a		Hydric	TTS
181E	7s		Not prime farmland		
Frohling, dissected, stony		3a-af		Not hydric	ATD
Tokiahok, dissected, stony		4a-af		Not hydric	ATD
185B	6s	5.3a	Not prime farmland	Not hydric	AVO
McMaster					
186B	3s	3a	Not prime farmland	Not hydric	AVO-A
Chatham, stony					
186D	6s	3a	Not prime farmland	Not hydric	AVO-A
Chatham, stony					
187B	2e	3/Ra	Not prime farmland	Not hydric	AVO-A/AVO
Reade					
188B	6s	3/5a	Not prime farmland	Not hydric	AVO-A/AOC
Eben, stony					
188D	6s	3/5a	Not prime farmland	Not hydric	AVO-A/AOC
Eben, stony					
188E	7s	3/5a	Not prime farmland	Not hydric	AVO-A/AOC
Eben, stony					
191B	7w		Not prime farmland		
Ruse		Rbc		Hydric	TTM
Ensign		Rbc		Not hydric	TM

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
197B	2e		Prime farmland		
Shoepac		3a		Not hydric	ATD/AVO
Trenary		3a		Not hydric	AVO/ATD
198B	3s		Prime farmland		
Shoepac		3a		Not hydric	ATD/AVO
Reade		3/Ra		Not hydric	AVO
200A	5w		Prime farmland*		
Charlevoix		3b		Not hydric	TMC/TMC-D
Ensley		3c		Hydric	FI/TTM
202B	6s	Ra	Not prime farmland	Not hydric	ATD-D
Sauxhead, very stony					
206B	6s	5.7a	Not prime farmland	Not hydric	AVO-A/AVO
Traunik					
206D	6s	5.7a	Not prime farmland	Not hydric	AVO-A/AVO
Traunik					
211B	2e		Not prime farmland		
Munising		3a-af		Not hydric	ATD
Abbaye		3/Ra		Not hydric	ATD
214B	3s		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
214D	3e		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
214E	6e		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Blue Lake		4a		Not hydric	ATD-D
221B	5w		Not prime farmland		
Jeske		Rbc		Not hydric	TMC
Au Train		4/Ra		Not hydric	ATD-D
Gongeau		4/Rbc		Hydric	TMC
225B	4s	5a	Not prime farmland	Not hydric	ATD-D
Cusino					
225D	6s	5a	Not prime farmland	Not hydric	ATD-D
Cusino					
226B	4s		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Cusino		5a		Not hydric	ATD-D
226D	6s		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Cusino		5a		Not hydric	ATD-D
226E	7s		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Cusino		5a		Not hydric	ATD-D

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
226F	7s		Not prime farmland		
Kalkaska		5a		Not hydric	ATD-D
Cusino		5a		Not hydric	ATD-D
227A Halfaday	4s	5a	Not prime farmland	Not hydric	ATD-D/TMC-D
232B Shelldrake	6s	5.3a	Not prime farmland	Not hydric	ATD-D/QAE
233B	2e		Not prime farmland		
Abbaye, very stony		3/Ra		Not hydric	ATD
Zeba, very stony		3/Rbc		Not hydric	TMC
234A	7s		Not prime farmland		
Levasseur, very stony		Rbc		Not hydric	TMC
Burt, very stony		Rbc		Hydric	TMC/TTM
235B	7w		Not prime farmland		
Sauxhead, very stony		Ra		Not hydric	ATD-D
Burt, very stony		Rbc		Hydric	TMC/TTM
236B Waiska, extremely bouldery	4s	Ga	Not prime farmland	Not hydric	ATD
236D Waiska, extremely bouldery	6s	Ga	Not prime farmland	Not hydric	ATD
237B	3s		Prime farmland*		
Chatham		3a		Not hydric	AVO
Davies		5c		Hydric	TTM
239B	4s		Not prime farmland		
Longrie		3/Ra		Not hydric	AVO-A
Shingleton		Ra		Not hydric	AVO-A
240F	5w		Not prime farmland		
Trout Bay		M/Rc		Hydric	ATD-CI
Gongeau		4/Rbc		Hydric	ATD-CI
Shingleton		Ra		Not hydric	AVO
Rock outcrop.					
241	6w		Not prime farmland		
Cathro		M/3c		Hydric	TTM
Gay		3c		Hydric	TMC
242B Kalkaska, severely burned	4s	5a	Not prime farmland	Not hydric	PVD
242D Kalkaska, severely burned	6s	5a	Not prime farmland	Not hydric	PVD
242F Kalkaska, severely burned	7s	5a	Not prime farmland	Not hydric	ATD-D/AQV

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
243 Markey	6w	M/4c	Not prime farmland	Hydric	None assigned
245B	5w		Not prime farmland		
Trout Bay		M/Rc		Hydric	TTM
Lupton		Mc		Hydric	TTM/TTS
Gongeau		4/Rbc		Hydric	TTM/TMC
246B Garlic	4s	5.3a	Not prime farmland	Not hydric	ATD-D
246D Garlic	6s	5.3a	Not prime farmland	Not hydric	ATD-D
246E Garlic	7s	5.3a	Not prime farmland	Not hydric	ATD-D
248B	3s		Not prime farmland		
Escanaba		4/2a		Not hydric	AVO/ATD
Greylock		3a		Not hydric	AVO/ATD
248D	3e		Not prime farmland		
Escanaba		4/2a		Not hydric	AVO/ATD
Greylock		3a		Not hydric	AVO/ATD
248E	6e		Not prime farmland		
Escanaba		4/2a		Not hydric	AVO/ATD
Greylock		3a		Not hydric	AVO/ATD
249B	7w		Not prime farmland		
Sauxhead		Ra		Not hydric	TMV
Skandia		M/Rc		Hydric	PCS/PO
250B	7s		Not prime farmland		
Chocolay, extremely stony		3/Ra		Not hydric	ATD
Jacobsville, extremely stony		3/Rbc		Hydric	TMC
251B Greylock	2e	3a	Prime farmland	Not hydric	AVO
251D Greylock	3e	3a	Not prime farmland	Not hydric	AVO
252A	6w		Not prime farmland		
Finch		5b-h		Not hydric	TMC-V
Kinross		5c-a		Hydric	PCS
254C	3e		Not prime farmland		
Kalkaska, dissected		5a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D
254E	6e		Not prime farmland		
Kalkaska, dissected		5a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
254F	7e		Not prime farmland		
Kalkaska, dissected		5a		Not hydric	ATD-D
Blue Lake, dissected		4a		Not hydric	ATD-D
255D	4s	5a-h	Not prime farmland	Not hydric	TM
Wallace					
256B	3s	5.7a	Not prime farmland	Not hydric	AVO
Whitewash					
266A	5w		Not prime farmland		
Spot		5c-h		Hydric	TTS
Finch		5b-h		Not hydric	TMC-V
267A	4w	5b-h	Not prime farmland	Not hydric	TMC-V
Finch					
268C	3e		Not prime farmland		
Munising, calcareous substratum, dissected		3a-af		Not hydric	ATD/AVO
Frohling, calcareous substratum, dissected		3a-f		Not hydric	ATD/AVO
Cookson, dissected		3/Ra		Not hydric	ATD/AVO
269E	6e		Not prime farmland		
Frohling, calcareous substratum, dissected		3a-f		Not hydric	ATD/AVO
Garlic, dissected		5.3a		Not hydric	ATD
Cookson, dissected		3/Ra		Not hydric	ATD/AVO
272C	3e		Not prime farmland		
Munising, calcareous substratum, dissected		3a-af		Not hydric	ATD/AVO
Yalmer, calcareous substratum, dissected		4a-a		Not hydric	ATD/AVO
Frohling, calcareous substratum, dissected		3a-f		Not hydric	ATD/AVO
275B	2e		Not prime farmland		
Munising, calcareous substratum		3a-af		Not hydric	ATD/AVO
Cookson		3/Ra		Not hydric	AVO
281E	7e	1.5a	Not prime farmland	Not hydric	ATD
Mongo, dissected					
282B	4s		Not prime farmland		
Furlong		4/Ra		Not hydric	AVO
Shingleton		Ra		Not hydric	AVO
282D	4e		Not prime farmland		
Furlong		4/Ra		Not hydric	AVO
Shingleton		Ra		Not hydric	AVO
284B	3s		Not prime farmland		
Steuben		3a		Not hydric	ATD
Blue Lake		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
284D	4e		Not prime farmland		
Steuben		3a		Not hydric	ATD
Blue Lake		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
284E	6e		Not prime farmland		
Steuben		3a		Not hydric	ATD
Blue Lake		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
285B	6w		Not prime farmland		
Halfaday		5a		Not hydric	ATD-D
Kinross		5c-a		Hydric	TTS
286B	2e		Not prime farmland		
Greylock		3a		Not hydric	AVO
Cookson		3/Ra		Not hydric	AVO
287B	5w		Not prime farmland		
McMaster		5.3a		Not hydric	AVO/ATD
Davies		5c		Hydric	TMC/TTM
290A	7w		Not prime farmland		
Namur, very stony		Ra		Not hydric	TM
Ruse, very stony		Rbc		Hydric	TTM
292B	2e	3a	Not prime farmland	Not hydric	AVO
Mashek, sandy substratum					
296D	4e		Not prime farmland		
Islandlake		5a		Not hydric	ATD-D
McMillan		4a		Not hydric	ATD
296E	6e		Not prime farmland		
Islandlake		5a		Not hydric	ATD-D
McMillan		4a		Not hydric	ATD
297B	6s	5.3a	Not prime farmland	Not hydric	PVD/QAE
Rubicon, severely burned					
297D	7s	5.3a	Not prime farmland	Not hydric	PVD/QAE
Rubicon, severely burned					
298B	4s		Not prime farmland		
Wurtsmith		5a		Not hydric	TM
Deford		4c		Hydric	FI
299F	7s	5.3a	Not prime farmland	Not hydric	ATD
Shelldrake					
300F	7s		Not prime farmland		
Shelldrake		5.3a		Not hydric	TMV
Dune land		5.7a		Not hydric	None assigned
301F	6e		Not prime farmland		
Cookson, dissected		3/Ra		Not hydric	AVO
Nykanen, dissected		Ra		Not hydric	AVO-CI

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
302B	4s		Not prime farmland		
Dillingham		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
302D	6s		Not prime farmland		
Dillingham		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
302E	7s		Not prime farmland		
Dillingham		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
302F	7s		Not prime farmland		
Dillingham		4a		Not hydric	ATD-D
Kalkaska		5a		Not hydric	ATD-D
303B	2e		Prime farmland		
Kiva		4a		Not hydric	AVO
Trenary		3a		Not hydric	AVO/ATD
303D	3e		Prime farmland		
Kiva		4a		Not hydric	AVO
Trenary		3a		Not hydric	AVO/ATD
303E	7e		Not prime farmland		
Kiva		4a		Not hydric	AVO
Trenary		3a		Not hydric	AVO/ATD
305B	4w		Not prime farmland		
Wurtsmith		5a		Not hydric	PVC
Meehan		5b		Not hydric	TMC-V
306C	6e		Not prime farmland		
Deerton, dissected		4/Ra		Not hydric	ATD-D
Tokiahok, dissected		4a-af		Not hydric	ATD-D
Jeske, dissected		Rbc		Not hydric	TMC
307B	6s	5.3a	Not prime farmland	Not hydric	QAE
Rubicon, very deep water table					
307D	7s	5.3a	Not prime farmland	Not hydric	QAE
Rubicon, very deep water table					
308B	6s		Not prime farmland		
Rubicon		5.3a		Not hydric	AQV
Sultz		5a		Not hydric	AQV
308D	6s		Not prime farmland		
Rubicon		5.3a		Not hydric	AQV
Sultz		4/2a		Not hydric	AQV
309B	6s	5.3a	Not prime farmland	Not hydric	QAE
Rubicon, deep water table					
309D	7s	5.3a	Not prime farmland	Not hydric	QAE
Rubicon, deep water table					

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
310B---------- Kalkaska, burned	4s	5a	Not prime farmland	Not hydric	TMV/TM
310D---------- Kalkaska, burned	6s	5a	Not prime farmland	Not hydric	TMV/TM
310D---------- Kalkaska, burned	7e	5a	Not prime farmland	Not hydric	TMV/TM
311B---------- Kalkaska, very deep water table, burned	4s	5a	Not prime farmland	Not hydric	ATD-D
311D---------- Kalkaska, very deep water table, burned	6s	5a	Not prime farmland	Not hydric	ATD-D
312B---------- Islandlake, burned	4s	5a	Not prime farmland	Not hydric	ATD-D
312D---------- Islandlake, burned	6s	5a	Not prime farmland	Not hydric	ATD-D
313B---------- Kalkaska, deep water table, burned	4s	5a	Not prime farmland	Not hydric	ATD-D
314B---------- Blue Lake, very deep water table, burned	3s	4a	Not prime farmland	Not hydric	ATD-D
315B---------- Blue Lake, deep water table, burned	3s	4a	Not prime farmland	Not hydric	ATD-D
316B---------- Blue Lake, burned	3s	4a	Not prime farmland	Not hydric	ATD-D
316D---------- Blue Lake, burned	3e	4a	Not prime farmland	Not hydric	ATD-D
317B---------- Kalkaska, very deep water table	4s	5a	Not prime farmland	Not hydric	ATD-D
317D---------- Kalkaska, very deep water table	6s	5a	Not prime farmland	Not hydric	ATD-D
318B---------- Islandlake, very deep water table	4s	5a	Not prime farmland	Not hydric	ATD-D
318D---------- Islandlake, very deep water table	6s	5a	Not prime farmland	Not hydric	ATD-D
319B---------- Islandlake	4s	5a	Not prime farmland	Not hydric	ATD-D

See footnote at end of table.

Interpretive Groups--Continued

Map symbol and soil name	Land capability classification	Michigan soil management group	Prime farmland category	Hydric soil status	Habitat type (primary/ secondary)
319D---------- Islandlake	6s	5a	Not prime farmland	Not hydric	ATD-D
319E---------- Islandlake	6e	5a	Not prime farmland	Not hydric	ATD
319F---------- Islandlake	7e	5a	Not prime farmland	Not hydric	ATD
320B---------- Kalkaska, deep water table	4s	5a	Not prime farmland	Not hydric	ATD-D
321B----------	4s		Not prime farmland		
Kalkaska----------		5a		Not hydric	ATD-D
Deerton----------		4/Ra		Not hydric	ATD-D
321D----------	6s		Not prime farmland		
Kalkaska----------		5a		Not hydric	ATD-D
Deerton----------		4/Ra		Not hydric	ATD-D

* Where drained.

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