



United States  
Department of  
Agriculture



Natural  
Resources  
Conservation  
Service

In cooperation with  
the Calista  
Corporation; the  
Kuskokwim  
Corporation; Interior  
Rivers RC&D  
Council; Mid Yukon-  
Kuskokwim Soil and  
Water Conservation  
District; and the  
University of Alaska  
Fairbanks,  
Agricultural and  
Forestry Experiment  
Station

# Soil Survey of Western Interior Rivers Area, Alaska





# How To Use This Soil Survey

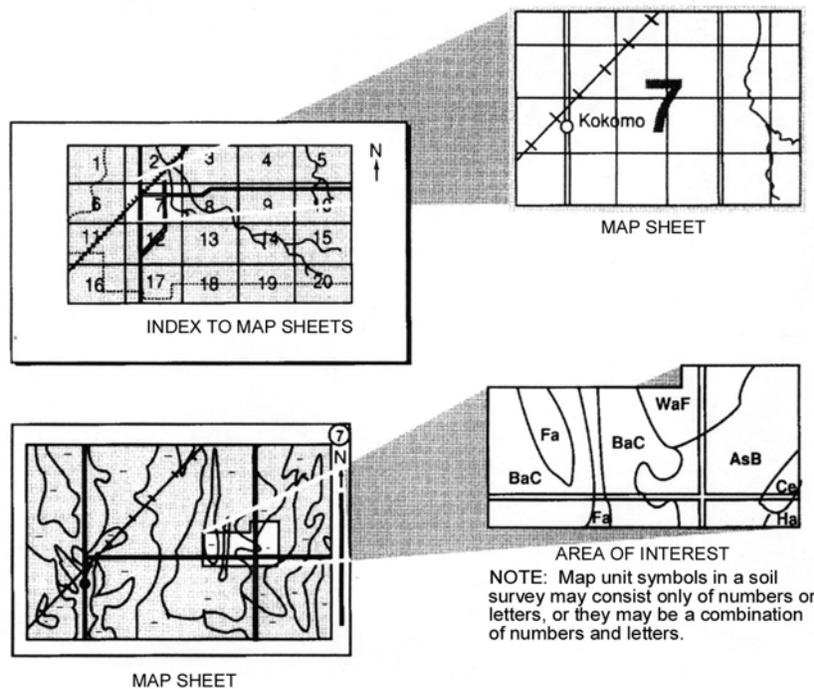
## Detailed Soil Maps

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.



---

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 and Forestry Experiment Station, and local agencies. The Natural Resources Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2007. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2005. This survey was made cooperatively by the Natural Resources Conservation Service and the Calista Corporation; the Kuskokwim Corporation; Interior Rivers RC&D Council; Mid Yukon-Kuskokwim Soil and Water Conservation District; and the University of Alaska Fairbanks, Agricultural and Forestry Experiment Station. This survey is part of the technical assistance furnished through the Mid Yukon-Kuskokwim Soil and Water Conservation District.

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.

The United States Department of Agriculture (USDA) prohibits discrimination in all of its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C., 20250-9410, or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Cover: View of the Kuskokwim River from a mountain top near Crooked Creek.

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

# Contents

---

<b>How To Use This Soil Survey</b> .....	iii
<b>Contents</b> .....	v
<b>Foreword</b> .....	ix
General Nature of the Survey Area .....	11
MLRA 230—Yukon-Kuskokwim Highlands .....	11
MLRA 229—Interior Alaska Lowlands .....	11
MLRA 238—Yukon-Kuskokwim Coastal Plain .....	13
MLRA 237—Aklun Mountains .....	13
Climate .....	14
How This Survey Was Made .....	15
<b>Soil Map Units</b> .....	17
Intensity of Mapping and Map Unit Names .....	17
29DP03—Noonku family, 0 to 2 percent slopes .....	19
29FP01—Fubar-Noonku families complex, 0 to 3 percent slopes .....	19
29FP02—Salchaket family, 0 to 2 percent slopes .....	20
29FP03—Chichantna family, 0 to 2 percent slopes .....	21
29VL02—Village lands, airstrip .....	21
30DP01—Holitnafamily, 0 to 2 percent slopes .....	22
30DP03—Oskawalikfamily, 0 to 2 percent slopes .....	22
30ES01—Waterfall family-Rock outcrop-Sleetmute family complex, 45 to 150 percent slopes .....	23
30FP01—Takotna family-Itulilikfamily complex, 0 to 3 percent slopes .....	24
30FP02—Takotna family, 0 to 2 percent slopes .....	25
30FP03—Takotna family-Gerstle family complex, 0 to 3 percent slope .....	26
30HI02—Uknavikfamily-Goldstream family-Holitnafamily complex, 3 to 8 percent slopes .....	27
30KA02—Kaviriuq silt loam, 3 to 8 percent slopes .....	29
30KA08—Kaviriuq-Nunaniq silt loams, 8 to 15 percent slopes .....	29
30MA01—Maqulluq very fine sandy loam, 0 to 3 percent slopes .....	30
30NU02—Nunaniq silt loam, 3 to 8 percent slopes .....	31
30NU03—Nunaniq silt loam, 8 to 15 percent slopes .....	32
30NU04—Nunaniq silt loam, 15 to 25 percent slopes .....	32
30NU05—Nunaniq silt loam, 25 to 45 percent slopes .....	33
30NU06—Nunaniq silt loam, 45 to 100 percent slopes .....	34
30NU07—Nunaniq-Sleetmute family, hillslopes, complex, 8 to 25 percent slopes .....	34
30NU08—Nunaniq-Sleetmute family, hillslopes, complex, 25 to 45 percent slopes .....	36
30NU12—Nunaniq-Kaviriuq-Teggiuq complex, 8 to 25 percent slopes .....	37
30OT01—Aleknagik family-Bonasilafamily complex, 8 to 25 percent slopes .....	38
30OT02—Uknavikfamily-Noonku family complex, 3 to 15 percent slopes .....	40
30SL01—Sleetmute gravelly silt loam, 25 to 45 percent slopes .....	41
30TE01—Liscum-Huffman families complex, 0 to 2 percent slopes .....	41
30TQ01—Teggiuq peat, 3 to 8 percent slopes .....	42

30TQ02—Teggiuq peat, 8 to 15 percent.....	43
30TQ03—Teggiuq peat, 15 to 25 percent.....	44
30VL01—Village lands.....	45
30VL02—Village lands, airstrip.....	45
38DP01—Teggiuq family, 0 to 2 percent slopes.....	45
38DP03—Uknavikfamily, 0 to 2 percent slopes.....	46
38ES01—Uknavikfamily, 25 to 100 percent slopes.....	47
38FP01—Salchaket-Happy families complex, 0 to 2 percent slopes.....	47
38FP02—Uknavikfamily-Karheen family complex, 0 to 2 percent slopes.....	48
38FP03—Takotna family-Noonku family complex, 0 to 3 percent slopes.....	49
38TE01—Teggiuq family.....	50
38TE03—Inmachuk-Teggiuq families complex, 0 to 3 percent slopes.....	51
38UL01—Ulesqiirluni silt, 0 to 1 percent slopes.....	52
38UL02—Ulesqiirluni-Uknavikfamily complex, 0 to 3 percent slopes.....	53
38UT01—Ulet silt loam, 0 to 3 percent slopes.....	54
38VL02—Village lands, airstrip.....	55
D29FPA—Boreal Flood Plains.....	55
D29FPB—Boreal Flood Plains, sandy.....	56
D29FPC—Boreal Flood Plains, wet.....	57
D29FPE—Boreal Flood Plains, low.....	58
D29FPG—Boreal Flood Plains, very wet.....	59
D29TEA—Boreal Eolian Terraces.....	60
D29TEB—Boreal Terraces, wet.....	62
D29TEC—Boreal Peatland Terraces.....	63
D30FAC—Boreal Fans, wet.....	64
D30FAD—Boreal Eolian Fans, wet.....	66
D30FPA—Boreal Flood Plains.....	67
D30FPD—Boreal Flood Plains, wet.....	68
D30FPE—Boreal Flood Plains, low.....	69
D30FPF—Boreal Flood Plains, moist.....	70
D30FPH—Boreal Flood Plains and Terraces, common permafrost.....	71
D30HIA—Boreal Eolian Hills.....	73
D30HIB—Boreal Eolian Hills, common permafrost.....	75
D30MTA—Boreal and Subalpine Eolian Mountains.....	76
D30MTB—Boreal and Subalpine Eolian Mountains, common permafrost.....	78
D30MTC—Boreal and Subalpine Mountains.....	80
D30MTD—Boreal and Subalpine Mountains, common permafrost.....	81
D30TEA—Boreal Terraces.....	83
D30TEB—Boreal Terraces, wet.....	84
D30TEF—Boreal Terraces, extensive permafrost.....	86
D30TEG—Boreal Peatland Terraces, very wet.....	88
D38FPA—Boreal Flood Plains.....	89
D38FPB—Boreal Flood Plains, sandy.....	90
D38FPC—Boreal Flood Plains, wet.....	91
D38FPD—Boreal Flood Plains, moderately wet.....	93
D38FPE—Boreal Flood Plains, low.....	94
D38FPF—Boreal Flood Plains, common permafrost.....	95
D38HIB—Boreal Eolian Hills, common permafrost.....	96
D38TEB—Boreal Peatland Terraces, very wet.....	98
D38TEC—Boreal Terraces, common permafrost.....	100
D38TED—Boreal Terraces, common permafrost, wet.....	102
R29FPC—Interior Alaska Lowlands, Boreal Flood Plains and Terraces.....	103
R29FPD—Interior Alaska Lowlands, Innoko River-Paimiut Slough Flood Plains..	105
R29FPE—Interior Alaska Lowlands, Tundra Flood Plains and Terraces.....	106

R29FPF—Interior Alaska Lowlands, Holitna River Flood Plains and Terraces .....	107
R29PLA—Interior Alaska Lowlands, Boreal Glaciated Plains .....	109
R29PLB—Interior Alaska Lowlands, Boreal Peatlands .....	111
R29UPA—Interior Alaska Lowlands, Boreal Glaciated Uplands .....	111
R29UPB—Interior Alaska Lowlands, Boreal Uplands.....	113
R29UPC—Interior Alaska Lowlands, Boreal Holitna Lowland Sand Sheet .....	114
R29WAA—Interior Alaska Lowlands, Water .....	115
R30FPA—Yukon-Kuskokwim Highlands, Boreal Flood Plains and Terraces.....	116
R30HIA—Yukon-Kuskokwim Highlands, Boreal Hills .....	118
R30HID—Yukon-Kuskokwim Highlands, Kulukbuk Hills .....	119
R30MTA—Yukon-Kuskokwim Highlands, Boreal Low Sedimentary Mountains....	121
R30MTB—Yukon-Kuskokwim Highlands, Boreal and Subalpine Low Mountains .....	122
R30MTC—Yukon-Kuskokwim Highlands, Boreal and Subalpine Mountains .....	125
R30MTD—Yukon-Kuskokwim Highlands, Subalpine and Alpine Glaciated Igneous Mountains.....	127
R30MTE—Yukon-Kuskokwim Highlands, Subalpine and Alpine Mountains.....	129
R30UPA—Yukon-Kuskokwim Highlands, Boreal Glaciated Uplands.....	131
R30UPB—Yukon-Kuskokwim Highlands, Boreal Uplands and Rhyolitic Mountains .....	132
R30UPC—Yukon-Kuskokwim Highlands, Boreal and Subalpine Glaciated Uplands.....	134
R30UPD—Yukon-Kuskokwim Highlands, Portage Mountain Uplands .....	136
R30UPE—Yukon-Kuskokwim Highlands, Tundra Glaciated Uplands .....	138
R30WAA—Yukon-Kuskokwim Highlands, Water.....	140
R37MTA—Ahklun Mountains, Subalpine and Alpine Glaciated Mountains.....	140
R38FPA—Yukon-Kuskokwim Coastal Plain, Aniak River Flood Plain and Terraces .....	142
R38FPB—Yukon-Kuskokwim Coastal Plain, Boreal Flood Plains and Terraces ..	144
R38PLA—Yukon-Kuskokwim Coastal Plain, Boreal Plains .....	145
R38PLB—Yukon-Kuskokwim Coastal Plain, Boreal and Tundra Plains .....	147
R38PLC—Yukon-Kuskokwim Coastal Plain, Tundra Plains.....	148
R38UPB—Yukon-Kuskokwim Coastal Plain, Tundra Uplands .....	150
R38WAA—Yukon-Kuskokwim Coastal Plain, Water .....	152
<b>Soil Properties</b> .....	153
Engineering Index Properties .....	153
Physical Properties.....	154
Chemical Properties .....	156
Water Features.....	157
Soil Features .....	158
Hydric Soils.....	159
<b>Classification of the Soils</b> .....	161
Taxonomic Units and Their Morphology .....	161
<b>Formation of the Soils</b> .....	163
Major Land Resource Areas.....	163
Climate .....	164
General Climate Effects .....	164
Climate and patterned ground .....	165
Climate and vegetation .....	166
Parent Material .....	167
Organisms .....	167
Relief (interacting with parent material, organisms, and time) .....	168
Hills and mountains.....	168
Concave positions and depressions in hills .....	174

Floodplains and Terraces .....	175
Phase I—Fluvents and Aquepts .....	178
Phase II—Haplocryepts and Aquepts .....	178
Phase III—Aquepts, Turbels, Histels, and Histosols .....	178
Phase IV—Terrace Soils in Loess and Coarse-loamy Alluvium .....	181
<b>References</b> .....	183
<b>Glossary</b> .....	185
<b>Tables</b> .....	197
Table 1. Climate Summaries for Holy Cross, Aniak, and McGrath, Alaska .....	198
Table 2. Temperature at Bethel and Aniak, Alaska .....	199
Table 3. Spring Freeze Probabilities at Bethel and Aniak, Alaska .....	200
Table 4. Fall Freeze Probabilities for Bethel and Aniak, Alaska .....	200
Table 5. Growing Degree Days at Bethel and Aniak, Alaska .....	201
Table 6. Acreage and Proportionate Extent of the Soils .....	202
Table 7. Engineering Index Properties .....	204
Table 8. Engineering Particle Size Data .....	239
Table 9. Physical Properties of the Soils .....	281
Table 10. Chemical Properties of the Soils .....	306
Table 11. Water Features .....	331
Table 12. Soil Features .....	390
Table 13. Hydric Soils List .....	414
Table 14. Classification of the Soils .....	425
<b>NRCS Accessibility Statement</b> .....	429

Issued: 2008

# Foreword

---

This soil survey contains information that can be used in land-planning programs in the Western Interior Rivers Area, Alaska. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

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

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

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

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

Robert N. Jones, State Conservationist  
Natural Resources Conservation Service

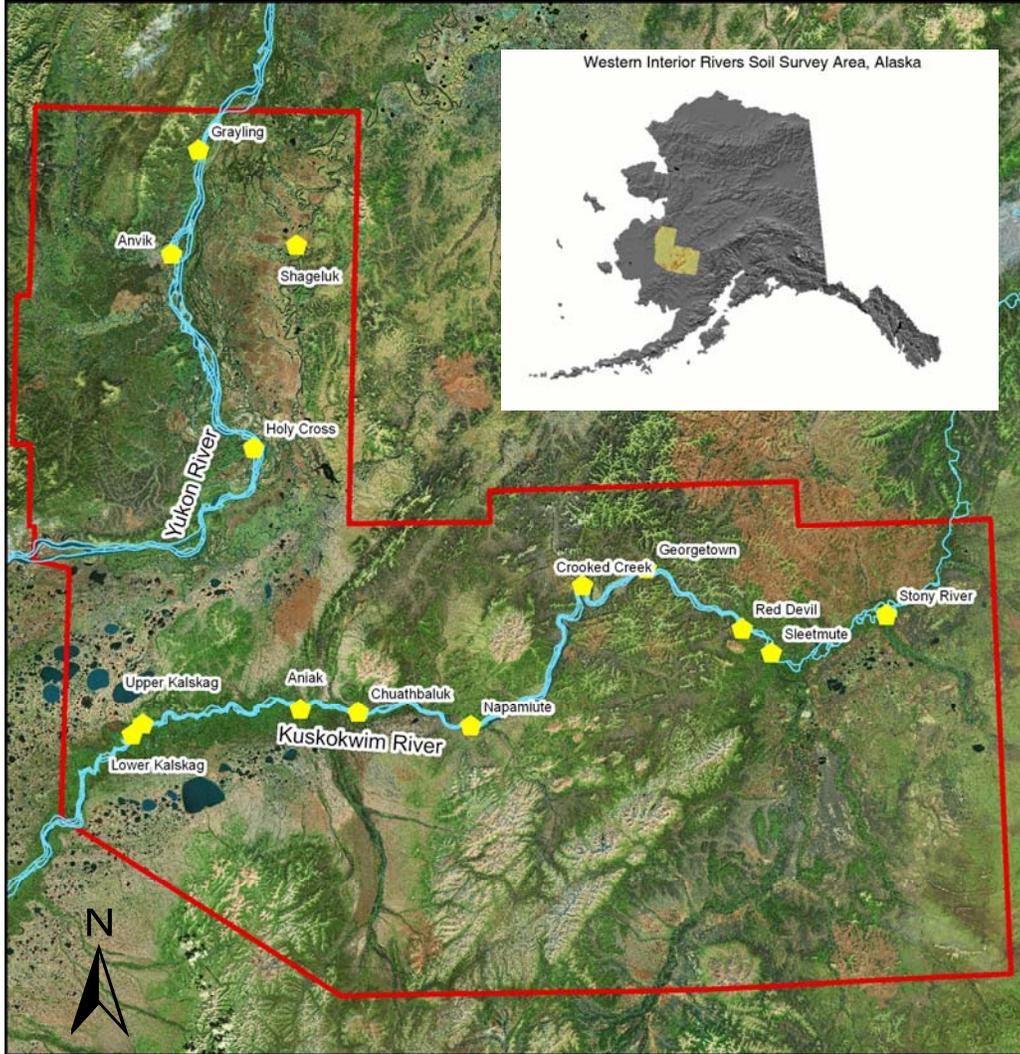


Figure 1. Location of the Western Interior Rivers soil survey area in Alaska.

# Soil Survey of Western Interior Rivers Area, Alaska

---

By Michael Mungoven, Natural Resources Conservation Service

Fieldwork by Mark Clark, Conrad Field, Elizabeth Hamilton, Christine Meyers, Dennis Moore, David Orgain, Donald Parizek, Trudy Pink, Logan Sander, Joel Sankey, Casey Schroeder and Stacy Urich, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service

In cooperation with the Calista Corporation; the Kuskokwim Corporation; Interior Rivers RC&D Council; Mid Yukon-Kuskokwim Soil and Water Conservation District; and the University of Alaska Fairbanks, Agricultural and Forestry Experiment Station

## General Nature of the Survey Area

The Western Interior Rivers Soil Survey Area is located in west-central Alaska. It straddles the Yukon and Kuskokwim Rivers as they move from interior to western Alaska and the Bering Sea (Figure 1). The area is approximately 9.7 million acres in size. The population is approximately 2,200 spread throughout fourteen villages. Aniak on the Kuskokwim River is the major air transportation hub for the region although the Yukon River villages of Grayling, Anvik, Shageluk, and Holy Cross are also served by air carriers out of Fairbanks. The Yukon and Kuskokwim Rivers are major transportation routes in the summer for barges delivering fuel oil, gasoline, and other supplies to the villages, as well

as for personal travel in both winter and summer. The rivers also provide an important subsistence fishery. Subsistence is the dominant land use but mining and tourism related to fishing and hunting also have histories in the area.

The Western Interior Rivers Survey Area lies within four Major Land Resource Areas (MLRAs): 229—Interior Alaska Lowlands, 230—Yukon-Kuskokwim Highlands, 237—Ahklun Mountains, and 238—Yukon-Kuskokwim Coastal Plain (Figure 2).

### MLRA 229—Interior Alaska Lowlands

In the northwest of the survey area between the Yukon and Innoko Rivers and in the east, south of the Kuskokwim and east of the Holitna Rivers, the sloughs, oxbow lakes, meandering streams, floodplains, terraces, and adjacent plains make up the

Interior Alaska Lowlands MLRA. The Holitna, Swift, and Stony Rivers all join the Kuskokwim after crossing the Lowlands on the east side. Some of the plains and terraces are quite wet and large expanses of organic-rich wetlands, both frozen and unfrozen, occur. The fluvial landforms consist of sandy and silty alluvium often overlain on higher positions by loess. In the southeast, glacial till covered by loess occurs. A large expansive loess covered eolian sand sheet of Pleistocene age covers the area just south of the Kuskokwim River as it trends south and west on the east side of the survey area. Elevations in the Lowlands range from around 328 to 722 feet (100 to 220 m). Significant expanses of boreal spruce forests occur in the eastern portion. Only isolated permafrost is present. Many areas show indications of permafrost such as thick organic mats, stunted trees, and gleyed soils but no permafrost is present.

### MLRA 230—Yukon-Kuskokwim Highlands

Running north to south through the center of the survey area and west and north of the Yukon River, MLRA 230—Yukon-Kuskokwim Highlands consists mostly of low mountains and dissected hills. Most of the bedrock is greywacke, shale, and schist but

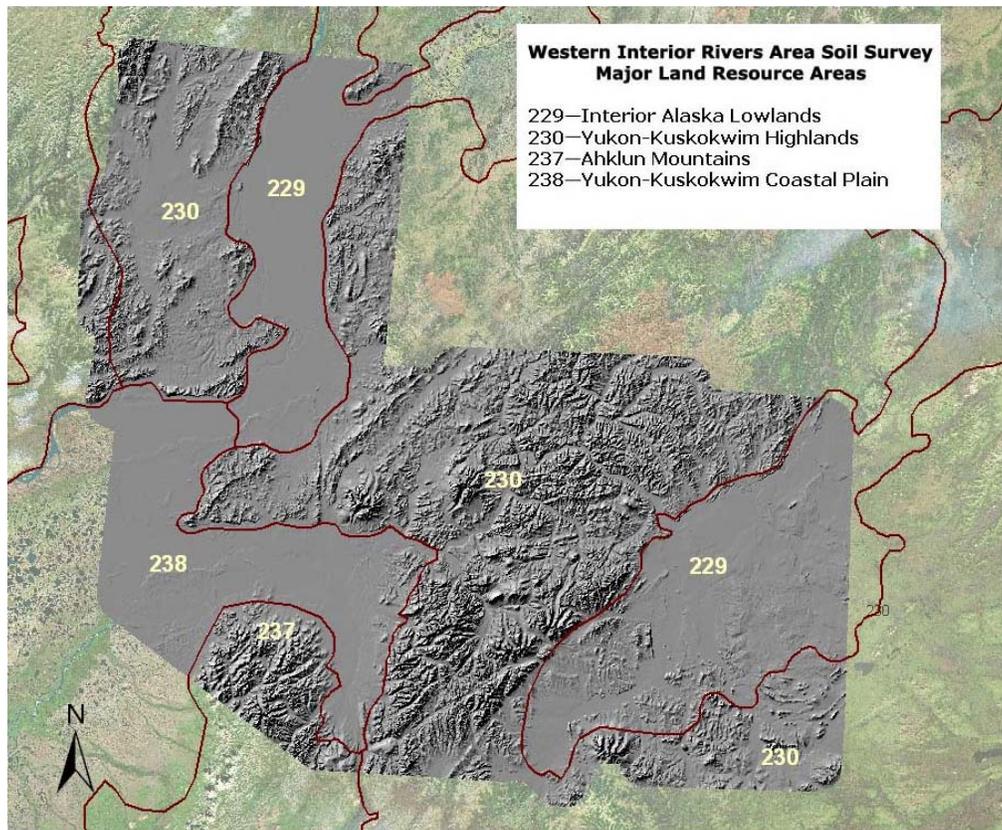


Figure 2. Western Interior Rivers survey area boundary showing the Major Land Resource Areas in which the survey is located.

the Kulukbuk Hills on the east side consist of limestone and create conditions suitable for the formation of Mollisols. A few isolated volcanic intrusions rise above the general

elevation. Some occur as modest mountain ranges, such as the Horn, the Russian, and the Taylor Mountains, others as isolated rounded rhyolite ridges and peaks, of which Barometer Mountain is the most distinct. Peaks are generally higher and slopes generally steeper to the south. The higher mountain groups are the only recently glaciated terrain in the survey area, except for the till plain lying south of the Kuskokwim River and southeast of the Holitna River. Elevations of the highest points in the Kuskokwim Mountains reach above 11,483 feet (3,500 m) but that is the rare exception. Most of the mountaintops and shoulders rise to less than 8,200 feet (2,500 m). Loess covers many slopes up to about 1,476 feet (450 m) elevation but loess deeper than 39 inches (100 cm) is rare above 689 feet (210 m) elevation and on very steep slopes. Loess is less common but still occurs away from major river valleys and in more remote mountain valleys. Higher elevations are generally covered with gravelly colluvium and residuum and support shrub and grass communities. Spruce and birch forests occur up to about 1,066 feet (325 m) in elevation; more open woodlands occur up to about 1,230 feet (375 m) elevation. Some scattered occurrences of forests higher than that may occur. Permafrost is not very common, but some north-facing or shaded slopes do have permafrost as do some terraces and footslopes along minor streams.

The transition between the Yukon-Kuskokwim Highlands and the Interior Alaska Lowlands on both east and west sides is abrupt and defined in the east by the course of the Holitna and Kuskokwim Rivers and in the west by the course of the Yukon and Innoko Rivers. On the west side gently sloping alluvial fans covered in loess form the transition between the Highlands and the Yukon-Kuskokwim Coastal Plain MLRA. A number of rivers drain to the Kuskokwim from the Highlands; some of the more significant ones are the Oskawalik, the Owhat, the Holokuk, the George, Crooked Creek, New York Creek, and Victoria Creek. Draining the Highlands in the west side and flowing into the Yukon are the Anvik, the Grayling, the Bonasilla, and the Koserefski. These smaller river valleys tend to have gravelly terraces with thinner layers of fine alluvial sediments on top, while the major rivers valleys typically have thicker layers of fine sediments.

### **MLRA 237—Aklun Mountains**

The Ahklun Mountains occupy the south west part of the survey area. The mountains consist of deformed sedimentary and volcanic rocks, with some bodies of schist. Dwarf shrubs and grasses dominate the upper slopes while alder and willow grow in dense bands on lower slopes. Grasses and shrubs dominate the wet valley bottoms, which are covered in till and colluvium with loess over the top. Loess is also common at higher elevations in this portion of the Ahklun Mountains. Elevations in the portion of the Ahklun Mountains that occur in the survey area range between about 262 and 2,133 feet (80 and 650 m).

### **MLRA 238—Yukon-Kuskokwim Coastal Plain**

The Yukon-Kuskokwim Coastal Plain lies on the west side of the survey area. The Yukon River runs along the northern edge, and the Kuskokwim River bisects this MLRA after it leaves the Highlands. The lake-rich coastal plain is covered by old alluvium from the Yukon and Kuskokwim Rivers. Extensive areas of wet organic-rich plains are present. Significant frozen and unfrozen loess plains also occur. Some are elevated quite high above river level and form concave, elongated landforms with wetlands in the depressions. Woodlands of paper birch and spruce do occur on some unfrozen areas but the area is characterized by tundra vegetation with sedges, small

scrubs, and grasses dominating. The modern floodplain is dominated by silty alluvium but some sandy areas do occur. The floodplain in this MLRA represents a western extension of tree line. The tundra on the surrounding uplands has sparse tree cover. Permafrost is common but not continuous. Thermokarst depressions are common and in some areas dry thermokarst depressions are common. They can be filled with several meters of dry sphagnum moss. Elevations on the Coastal Plain are between about 82 and 328 feet (25 and 100 m)

## Climate

The closest major climate station with long-term records is located at Bethel, Alaska; outside of the survey area. Limited climate information is also available for Aniak, Alaska; within the survey area. The following information is from those two locations.

The two main topographical features affecting the climate of Bethel are the Bering Sea, which is about 100 miles to the west and southwest, and the Kilbuck Range of mountains located about 40 miles to the east and southeast of the station. This range, averaging about 4,000 feet in height, extends, roughly, in a north-south direction in that portion nearest to Bethel. Some 160 miles southeast of the Kilbuck Range the Aleutians, extending in a northeast-southwest direction, provide an additional natural barrier to many of the storms originating on the outward end of the Aleutian Chain and moving out through the Gulf of Alaska. Both ranges tend to direct some of the storms northeastward into the Bering Sea, and thus directly affect the Bethel area. During invasions of such storms, it is not uncommon for wind velocities to exceed 50 mph. Maximum speeds usually accompany northeast winds in the winter and southeast winds in the summer. During the winter season, strong southerly winds tend to be considerably affected by the mountains to the south, producing, at times, a pronounced foehn (chinook) effect. Temperatures have risen almost 50 degrees in less than 24 hours under these conditions.

The climate is somewhat more maritime than continental in character, which tends to modify daily temperature extremes during most of the year. However, there are usually two periods during the year when the area becomes affected by continental climatic influences. In June and July, temperatures in the area rise noticeably under the influence of warmer continental air. Around the latter part of December and early January, cold, clear continental air becomes quite dominant, and the climate of Bethel becomes quite similar to other areas located farther inland. Average temperatures through the entire winter season, however, are considerably higher than those experienced in the Alaskan interior, and temperatures for the entire summer season average considerably cooler than in the Alaskan interior. The last date of freezing temperature in spring averages late May, and the average of the first freezing temperature in autumn falls in early September, resulting in a growing season slightly over 100 days. The total annual precipitation at Bethel is 17.03 inches (432 mm). Cabbages, potatoes, cauliflower, beets, turnips, lettuce, and carrots are successfully grown. August is usually the wettest month of the year.

Thunderstorms are rare. The few thunderstorms that do occur are generally short in duration, but rather severe. They usually develop and move out of the northeast during the months of June and July.

Table 1 gives climate summaries for Holy Cross, Aniak, and McGrath, Alaska. Table 2 gives data on temperature for the survey area as recorded at Bethel and Aniak, Alaska for the period 1949 to 2006. Table 3 shows probable dates of the last freeze in spring at Bethel and Aniak. Table 4 shows probable dates of the first freeze

in fall at Bethel and Aniak and table 5 provides data on length of the growing season at Bethel and Aniak.

In winter (November through March), the average temperature is 7.2 degrees F (-13.78 degrees C) at Bethel and the average monthly minimum temperature is 22.4 degrees F (-5.33 degrees C). The lowest temperature on record, which occurred on January 28, 1989, is -48 degrees F. In summer, the average temperature is 53.4 (11.89 degrees C) and the average monthly maximum temperature is 60.8 (16 degrees C). The highest recorded temperature, which occurred on August 9, 2003, is 87 degrees F. (30.56 degrees C).

Growing degree days are shown in table 4. 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 of 40 degrees F (4 degrees C).

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. To characterize and map the soils, soil scientists 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 soil scientists also observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of native plants; and the kinds of geologic materials.

Before beginning the fieldwork, relevant information on the climate, geology, geomorphology, hydrology, and vegetation of the survey area was assembled. Aerial photography of the survey area was acquired and prepared for field use and mapping.

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

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

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

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

# Soil Map Units

---

## Intensity of Mapping and Map Unit Names

The soils in the Western Interior Rivers Area were mapped at different levels of intensity based on perceived land use management and planning needs. Prior to beginning field work, three different zones within the survey area were identified, each requiring a different level of soils information.

The zone requiring the most detailed level of mapping consisted of each community and those adjacent lands that might be considered for community expansion. Extensive ground-truthing and examination of soil properties were completed in these areas. This level of mapping provides adequate information for community planning and development. The soil map units are named using soil taxonomic terminology (e.g., Teggiug peat, 8 to 15 percent slopes). Map unit symbols for soil units mapped at this level of detail begin with a numeric character (e.g., 30KA02).

The next zone consisted of lands outside communities that are easily accessible by local transportation routes, especially lands along the river corridors. Although these lands are considered primary resource lands, they do not require the level of information needed within the communities. Soil profiles and properties were still examined but the sampling density was less than that used in the communities. The level of information provided is suitable for purposes such as forestry, source material (sand and gravel) location, subsistence, recreation, and wildlife habitat. The soil map units are named using ecological zone and landform terminology (e.g. Boreal floodplains, Sandy). Map unit symbols for soils mapped at this level begin with the letter "D" (e.g., D38FPB).

All remaining lands in the survey area were mapped at a very general level of intensity. Only a limited number of soil profiles and properties were examined on the ground and extensive use was made of remote-sensing analysis of satellite imagery. This broad level of mapping provides information suitable for general area planning and resource analysis. It is not suitable for community level planning or most resource management activity. The soil map units are named using broad ecological region and landform names (e.g., Yukon-Kuskokwim Coastal Plain, Boreal Plains). Map unit symbols for soils mapped at this level begin with the letter "R" (e.g., R29FPD).

The map units delineated on the 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. High intensity map units are identified and named according to the taxonomic classification of the dominant soils. The lowest intensity map units are identified according to taxonomic classification but are named using ecologic zone and landform terms. 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 non-contrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

Map units that consist of one major component are called consociations. 29DP03—Noonku family, 0 to 2 percent slopes is an example.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, 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. 29FP01—Fubar-Noonku family complex, 0 to 3 percent slopes is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. R29FPC—Interior Alaska Lowlands, Boreal Flood Plains and Terraces 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. There are no 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. R37MTA—Ahklun Mountains, Subalpine and Alpine Glaciated Mountains is an example.

Table 6 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.

### **29DP03—Noonku family, 0 to 2 percent slopes**

*Elevation:* 49 to 148 feet

*Mean annual precipitation:* 16 to 19 inches

*Frost-free period:* 80 to 125 days

#### ***29-Noonku family, ponded, and similar soils***

*Extent:* 85 to 100 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* concave, linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by wind—slight

*Runoff:* low

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

C/O—0 to 7 inches; silt loam, moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity

Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

#### ***Minor Components***

29-Salchaket family and similar soils: 0 to 15 percent of the map unit

### **29FP01—Fubar-Noonku families complex, 0 to 3 percent slopes**

*Elevation:* 56 to 253 feet

*Mean annual precipitation:* 16 to 19 inches

*Frost-free period:* 80 to 125 days

#### ***29-Fubar family, frequent flooding, and similar soils***

*Extent:* 55 to 75 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 2.2 inches

*Representative Profile:*

C1—0 to 6 inches; stratified sand to loamy fine sand, high saturated hydraulic conductivity

C2—6 to 11 inches; gravelly sand, fine sand, loamy fine sand, high saturated hydraulic conductivity

C3—11 to 60 inches; stratified extremely gravelly sand to sandy loam, high saturated hydraulic conductivity

### ***29-Noonku family, frequent flooding, and similar soils***

*Extent:* 25 to 45 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

C/O—0 to 7 inches; silt loam, moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity

Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

### **29FP02—Salchaket family, 0 to 2 percent slopes**

*Elevation:* 49 to 249 feet

*Mean annual precipitation:* 16 to 19 inches

*Frost-free period:* 80 to 125 days

### ***29-Salchaket family and similar soils***

*Extent:* 75 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 13.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; silt loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

29-Gerstle family and similar soils: 0 to 15 percent of the map unit

29-Liscum family and similar soils: 5 to 10 percent of the map unit

## **29FP03—Chichantna family, 0 to 2 percent slopes**

*Elevation:* 56 to 236 feet

*Mean annual precipitation:* 13 to 19 inches

*Frost-free period:* 80 to 125 days

### ***29-Chichantna family and similar soils***

*Extent:* 70 to 95 percent of the map unit

*Landform:* depressions on flood plains, thermokarst depressions on terraces

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 23.3 inches

*Representative Profile:*

Oi—0 to 18 inches; peat, high saturated hydraulic conductivity

Oa—18 to 60 inches; muck, moderately low saturated hydraulic conductivity

### ***Minor Components***

29-Gerstle family and similar soils: 0 to 15 percent of the map unit

29-Liscum family and similar soils: 5 to 15 percent of the map unit

## **29VL02—Village lands, airstrip**

*Mean annual precipitation:* 13 to 19 inches

*Frost-free period:* 80 to 125 days

### **29-Urban land**

*Extent:* 100 percent of the map unit

*Landform:* terraces

### **30DP01—Holitnafamily, 0 to 2 percent slopes**

*Elevation:* 66 to 249 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

#### **30-Holitnafamily and similar soils**

*Extent:* 85 to 100 percent of the map unit

*Landform:* depressions on mountains

*Position on slope:* toeslopes

*Slope shape:* concave

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11 inches

*Representative Profile:*

O<sub>i</sub>—0 to 43 inches; peat, very high saturated hydraulic conductivity

C—43 to 60 inches; silt, high saturated hydraulic conductivity

#### **Minor Components**

30-Uknavikfamily and similar soils: 0 to 15 percent of the map unit

### **30DP03—Oskawalikfamily, 0 to 2 percent slopes**

*Elevation:* 66 to 217 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

#### **30-Oskawalikfamily and similar soils**

*Extent:* 85 to 100 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 0 to 2 percent, east to south aspects

*Parent material:* loamy slope alluvium and/or gravelly slope alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—12 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

O<sub>i</sub>—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

O<sub>e</sub>—5 to 9 inches; moderately decomposed plant material, high saturated hydraulic conductivity

B<sub>w</sub>—9 to 12 inches; stratified silt loam to mucky peat, moderately high saturated hydraulic conductivity

B<sub>g</sub>—12 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

C<sub>g</sub>—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Kuskokwim family and similar soils: 0 to 10 percent of the map unit

30-Takotna family and similar soils: 0 to 5 percent of the map unit

## **30ES01—Waterfall family-Rock outcrop-Sleetmute family complex, 45 to 150 percent slopes**

*Elevation:* 49 to 725 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### ***30-Waterfall family and similar soils***

*Extent:* 25 to 65 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* shoulders, backslopes, summits

*Slope shape:* convex, linear

*Slope range:* 45 to 150 percent, north to north aspects

*Parent material:* gravelly residuum

*Depth to lithic bedrock:* 18 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 2.6 inches

*Representative Profile:*

O<sub>e</sub>—0 to 3 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—3 to 8 inches; very gravelly silt loam, high saturated hydraulic conductivity

C—8 to 19 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

R—19 to 60 inches; bedrock, very low saturated hydraulic conductivity

### **30-Rock outcrop**

*Extent:* 15 to 55 percent of the map unit

*Landform:* mountains

*Slope range:* 45 to 150 percent, west to northeast aspects

### **30-Sleetmute family and similar soils**

*Extent:* 20 to 60 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 45 to 150 percent, north to north aspects

*Parent material:* gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8.1 inches

*Representative Profile:*

Oi—0 to 6 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—6 to 8 inches; channery silt loam, high saturated hydraulic conductivity

Bw—8 to 13 inches; very channery fine sandy loam, high saturated hydraulic conductivity

BC—13 to 24 inches; extremely channery fine sandy loam, high saturated hydraulic conductivity

C—24 to 60 inches; extremely channery silt loam, high saturated hydraulic conductivity

### **30FP01—Takotna family-Itulilikfamily complex, 0 to 3 percent slopes**

*Elevation:* 184 to 200 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

### **30-Takotna family and similar soils**

*Extent:* 45 to 70 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### ***30-Itulilik family and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 1 to 3 percent, east to south aspects

*Parent material:* loamy slope alluvium and/or gravelly slope alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—12 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

Oe—5 to 9 inches; moderately decomposed plant material, high saturated hydraulic conductivity

Bw—9 to 12 inches; stratified silt loam to mucky peat, moderately high saturated hydraulic conductivity

Bg—12 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Water: 5 to 15 percent of the map unit

### **30FP02—Takotna family, 0 to 2 percent slopes**

*Elevation:* 49 to 223 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

### ***30-Takotna family and similar soils***

*Extent:* 60 to 85 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Gerstle family and similar soils: 10 to 15 percent of the map unit

30-Uknavik family and similar soils: 5 to 15 percent of the map unit

30-Urban land: 0 to 10 percent of the map unit

### **30FP03—Takotna family-Gerstle family complex, 0 to 3 percent slope**

*Elevation:* 49 to 220 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

#### **30-Takotna family and similar soils**

*Extent:* 45 to 70 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **30-Gerstle family and similar soils**

*Extent:* 25 to 45 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent, north to north aspects

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A/E—4 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 16 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—16 to 47 inches; fine sandy loam, moderately high saturated hydraulic conductivity

C—47 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Uknavikfamily and similar soils: 5 to 15 percent of the map unit

### **30HI02—Uknavikfamily-Goldstream family-Holitnafamily complex, 3 to 8 percent slopes**

*Elevation:* 66 to 525 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### **30-Uknavikfamily and similar soils**

*Extent:* 35 to 65 percent of the map unit

*Landform:* alluvial fans, hills

*Position on slope:* footslopes

*Slope shape:* linear

*Slope range:* 3 to 8 percent, east to south aspects

*Parent material:* loamy slope alluvium and/or gravelly slope alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—12 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

- Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity
- Oe—5 to 9 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- Bw—9 to 12 inches; stratified silt loam to mucky peat, moderately high saturated hydraulic conductivity
- Bg—12 to 30 inches; silt loam, moderately high saturated hydraulic conductivity
- Cg—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

**30-Goldstream family and similar soils**

*Extent:* 15 to 35 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* footslopes, backslopes

*Slope shape:* concave, linear

*Slope range:* 3 to 8 percent, north to east aspects

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy slope alluvium

*Depth to permafrost:* 22 to 39 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

- Oi—0 to 5 inches; peat, very high saturated hydraulic conductivity
- Oa—5 to 13 inches; muck, moderately low saturated hydraulic conductivity
- Ag—13 to 16 inches; silt loam, high saturated hydraulic conductivity
- Bjgg—16 to 22 inches; silt loam, moderately high saturated hydraulic conductivity
- Cf—22 to 60 inches; permanently frozen silt loam, moderately low saturated hydraulic conductivity

**30-Holitna family and similar soils**

*Extent:* 15 to 30 percent of the map unit

*Landform:* depressions on hills

*Position on slope:* toeslopes

*Slope shape:* concave

*Slope range:* 3 to 4 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11 inches

*Representative Profile:*

- Oi—0 to 43 inches; peat, very high saturated hydraulic conductivity
- C—43 to 60 inches; silt, high saturated hydraulic conductivity

### ***Minor Components***

30-Bonasilafamily and similar soils: 5 to 15 percent of the map unit

### **30KA02—Kaviriuq silt loam, 3 to 8 percent slopes**

*Elevation:* 10 to 26 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### ***30-Kaviriuq and similar soils***

*Extent:* 85 to 95 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* toeslopes, shoulders, backslopes

*Slope shape:* linear, convex

*Slope range:* 3 to 8 percent, east to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.5 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—2 to 3 inches; silt loam, moderately high saturated hydraulic conductivity

Bs—3 to 6 inches; silt loam, high saturated hydraulic conductivity

Bw—6 to 15 inches; silt loam, high saturated hydraulic conductivity

C—15 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Nunaniq and similar soils: 5 to 15 percent of the map unit

### **30KA08—Kaviriuq-Nunaniq silt loams, 8 to 15 percent slopes**

*Elevation:* 49 to 525 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### ***30-Nunaniq and similar soils***

*Extent:* 50 to 65 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, shoulders, backslopes

*Slope shape:* linear

*Slope range:* 8 to 15 percent, northeast to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity

BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity

C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***30-Kaviriuq and similar soils***

*Extent:* 20 to 40 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* toeslopes, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 8 to 15 percent, northeast to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.5 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—2 to 3 inches; silt loam, moderately high saturated hydraulic conductivity

Bs—3 to 6 inches; silt loam, high saturated hydraulic conductivity

Bw—6 to 15 inches; silt loam, high saturated hydraulic conductivity

C—15 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Peede family and similar soils: 5 to 10 percent of the map unit

30-Sleetmute and similar soils: 0 to 10 percent of the map unit

### **30MA01—Maqulluq very fine sandy loam, 0 to 3 percent slopes**

*Elevation:* 164 to 246 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

### ***30-Maqulluq and similar soils***

*Extent:* 75 to 95 percent of the map unit

*Landform:* terraces, sand sheets

*Slope shape:* linear

*Slope range:* 0 to 3 percent, southwest to north aspects

*Parent material:* coarse-loamy eolian deposits over eolian sands

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—5 to 8 inches; fine sandy loam, moderately high saturated hydraulic conductivity

Bs—8 to 12 inches; fine sandy loam, moderately high saturated hydraulic conductivity

BC—12 to 30 inches; fine sandy loam, moderately high saturated hydraulic conductivity

2C—30 to 60 inches; sand, high saturated hydraulic conductivity

### ***Minor Components***

30-Gerstle family and similar soils: 5 to 10 percent of the map unit

30-Coville family, gravelly, and similar soils: 0 to 10 percent of the map unit

30-Uknavikfamily and similar soils: 0 to 5 percent of the map unit

### **30NU02—Nunaniq silt loam, 3 to 8 percent slopes**

*Elevation:* 49 to 745 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

#### ***30-Nunaniq and similar soils***

*Extent:* 60 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* linear, convex

*Slope range:* 3 to 8 percent, northeast to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity

BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Kaviriuq and similar soils: 5 to 15 percent of the map unit  
 30-Smithfha family, hillslopes, and similar soils: 5 to 15 percent of the map unit  
 30-Peede family and similar soils: 5 to 10 percent of the map unit

## **30NU03—Nunaniq silt loam, 8 to 15 percent slopes**

*Elevation:* 82 to 791 feet  
*Mean annual precipitation:* 15 to 26 inches  
*Frost-free period:* 95 to 135 days

### **30-Nunaniq and similar soils**

*Extent:* 60 to 85 percent of the map unit  
*Landform:* hills  
*Position on slope:* toeslopes, shoulders, backslopes  
*Slope shape:* linear, convex  
*Slope range:* 8 to 15 percent, northeast to west aspects  
*Parent material:* loess  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 13.4 inches  
*Representative Profile:*  
     Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity  
     A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity  
     Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity  
     BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity  
     C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Kaviriuq and similar soils: 5 to 15 percent of the map unit  
 30-Smithfha family, hillslopes, and similar soils: 5 to 15 percent of the map unit  
 30-Peede family and similar soils: 5 to 10 percent of the map unit

## **30NU04—Nunaniq silt loam, 15 to 25 percent slopes**

*Elevation:* 72 to 689 feet  
*Mean annual precipitation:* 15 to 26 inches  
*Frost-free period:* 95 to 135 days

### ***30-Nunaniq and similar soils***

*Extent:* 60 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, shoulders, backslopes

*Slope shape:* linear, convex

*Slope range:* 15 to 25 percent, northeast to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity

BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity

C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Kaviriuq and similar soils: 5 to 15 percent of the map unit

30-Smithfha family, hillslopes, and similar soils: 5 to 15 percent of the map unit

30-Peede family and similar soils: 5 to 10 percent of the map unit

### **30NU05—Nunaniq silt loam, 25 to 45 percent slopes**

*Elevation:* 69 to 748 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### ***30-Nunaniq and similar soils***

*Extent:* 65 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* convex, linear

*Slope range:* 25 to 45 percent, southwest to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity  
 Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity  
 BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Sleetmute family, gravelly, and similar soils: 5 to 15 percent of the map unit  
 30-Peede family and similar soils: 5 to 10 percent of the map unit  
 30-Waterfall family and similar soils: 5 to 10 percent of the map unit

## **30NU06—Nunaniq silt loam, 45 to 100 percent slopes**

*Elevation:* 49 to 489 feet  
*Mean annual precipitation:* 15 to 26 inches  
*Frost-free period:* 95 to 135 days

### ***30-Nunaniq and similar soils***

*Extent:* 60 to 80 percent of the map unit  
*Landform:* hills  
*Position on slope:* shoulders, backslopes, toeslopes  
*Slope shape:* linear, convex  
*Slope range:* 45 to 100 percent, northeast to northwest aspects  
*Parent material:* loess  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 13.4 inches  
*Representative Profile:*  
 Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity  
 A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity  
 Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity  
 BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Sleetmute family, gravelly, and similar soils: 10 to 15 percent of the map unit  
 30-Waterfall family and similar soils: 5 to 15 percent of the map unit  
 30-Peede family and similar soils: 5 to 10 percent of the map unit

## **30NU07—Nunaniq-Sleetmute family, hillslopes, complex, 8 to 25 percent slopes**

*Elevation:* 92 to 804 feet  
*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### **30-Nunaniq and similar soils**

*Extent:* 45 to 65 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* linear, convex

*Slope range:* 8 to 25 percent, east to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity

BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity

C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **30-Sleetmute family, hillslopes, and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 8 to 25 percent, northwest to west aspects

*Parent material:* loamy loess and/or loamy slope alluvium over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 8.8 inches

*Representative Profile:*

Oi—0 to 9 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—9 to 12 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—12 to 18 inches; silt loam, moderately high saturated hydraulic conductivity

2BC—18 to 28 inches; channery silt loam, high saturated hydraulic conductivity

2C—28 to 60 inches; very channery silt loam, high saturated hydraulic conductivity

### **Minor Components**

30-Kaviriuq and similar soils: 5 to 15 percent of the map unit

30-Peede family and similar soils: 0 to 5 percent of the map unit

30-Goldstream family and similar soils: 0 to 5 percent of the map unit

### **30NU08—Nunaniq-Sleetmute family, hillslopes, complex, 25 to 45 percent slopes**

*Elevation:* 82 to 899 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

#### ***30-Nunaniq and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* linear, convex

*Slope range:* 25 to 45 percent, east to west aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.4 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity

BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity

C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### ***30-Sleetmute family, hillslope, and similar soils***

*Extent:* 40 to 55 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 25 to 45 percent, north to north aspects

*Parent material:* loamy loess and/or loamy slope alluvium over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 8.8 inches

*Representative Profile:*

Oi—0 to 9 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—9 to 12 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—12 to 18 inches; silt loam, moderately high saturated hydraulic conductivity

2BC—18 to 28 inches; channery silt loam, high saturated hydraulic conductivity

2C—28 to 60 inches; very channery silt loam, high saturated hydraulic conductivity

### **Minor Components**

30-Kaviriuq and similar soils: 5 to 15 percent of the map unit  
 30-Goldstream family and similar soils: 0 to 5 percent of the map unit  
 30-Peede family and similar soils: 0 to 5 percent of the map unit

### **30NU12—Nunaniq-Kaviriuq-Teggiuq complex, 8 to 25 percent slopes**

*Elevation:* 49 to 561 feet  
*Mean annual precipitation:* 15 to 26 inches  
*Frost-free period:* 95 to 135 days

#### **30-Nunaniq and similar soils**

*Extent:* 30 to 50 percent of the map unit  
*Landform:* hills  
*Position on slope:* toeslopes, shoulders, backslopes  
*Slope shape:* linear, convex  
*Slope range:* 8 to 25 percent, west to northeast aspects  
*Parent material:* loess  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 13.4 inches  
*Representative Profile:*  
 Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity  
 A—2 to 7 inches; silt loam, moderately high saturated hydraulic conductivity  
 Bw—7 to 14 inches; silt loam, moderately high saturated hydraulic conductivity  
 BC—14 to 35 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—35 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### **30-Teggiuq and similar soils**

*Extent:* 20 to 45 percent of the map unit  
*Landform:* mountains  
*Position on slope:* backslopes, footslopes  
*Slope shape:* linear  
*Slope range:* 8 to 25 percent, northeast to west aspects  
*Parent material:* mossy organic material over coarse-silty cryoturbate over permanently frozen coarse-silty eolian deposits  
*Depth to permafrost:* 26 to 47 inches  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches  
*Ponding:* none

*Available water capacity (approximate):* 12.9 inches

*Representative Profile:*

Oi—0 to 8 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—8 to 10 inches; very dark brown mucky peat, high saturated hydraulic conductivity

Ajj—10 to 22 inches; dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Bjj—22 to 30 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Cg—30 to 46 inches; black and dark brown silt loam, moderately low saturated hydraulic conductivity

Cf—46 to 60 inches; black and dark brown permanently frozen material, very low saturated hydraulic conductivity

### ***30-Kaviriuq and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* toeslopes, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 8 to 25 percent, west to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.5 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—2 to 3 inches; silt loam, moderately high saturated hydraulic conductivity

Bs—3 to 6 inches; silt loam, high saturated hydraulic conductivity

Bw—6 to 15 inches; silt loam, high saturated hydraulic conductivity

C—15 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Peede family and similar soils: 5 to 10 percent of the map unit

30-Waterfall family and similar soils: 2 to 10 percent of the map unit

30-Urban land: 0 to 3 percent of the map unit

## **30OT01—Aleknagik family-Bonasilafamily complex, 8 to 25 percent slopes**

*Elevation:* 66 to 344 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

### **30-Aleknagik family and similar soils**

*Extent:* 50 to 70 percent of the map unit

*Landform:* hills, terraces

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 8 to 25 percent, southwest to north aspects

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity

A/E—1 to 3 inches; silt loam, high saturated hydraulic conductivity

Bs—3 to 6 inches; silt loam, high saturated hydraulic conductivity

Bw—6 to 32 inches; silt loam, moderately high saturated hydraulic conductivity

C—32 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **30-Bonasilafamily and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 8 to 25 percent, north to north aspects

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A/E—4 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 16 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—16 to 47 inches; fine sandy loam, moderately high saturated hydraulic conductivity

C—47 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Holokukfamily and similar soils: 0 to 10 percent of the map unit

30-Huffman family and similar soils: 0 to 10 percent of the map unit

### **30OT02—Uknavikfamily-Noonku family complex, 3 to 15 percent slopes**

*Elevation:* 66 to 302 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

#### **30-Uknavikfamily and similar soils**

*Extent:* 10 to 70 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 3 to 15 percent, east to west aspects

*Parent material:* loamy slope alluvium and/or gravelly slope alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—12 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

Oe—5 to 9 inches; moderately decomposed plant material, high saturated hydraulic conductivity

Bw—9 to 12 inches; stratified silt loam to mucky peat, moderately high saturated hydraulic conductivity

Bg—12 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### **30-Noonku family and similar soils**

*Extent:* 10 to 30 percent of the map unit

*Landform:* drainageways on hills, drainageways on plains

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 3 to 15 percent, east to west aspects

*Parent material:* sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—1 to 14 inches; June-Sept.—1 inch

*Ponding:* none

*Available water capacity (approximate):* 4.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—1 to 28 inches; stratified silt loam to coarse sand, high saturated hydraulic conductivity

Cg2—28 to 60 inches; stratified very gravelly coarse sand to gravelly silt loam, very high saturated hydraulic conductivity

### ***Minor Components***

30-Bonasilafamily and similar soils: 5 to 15 percent of the map unit

30-Goldstream family and similar soils: 5 to 15 percent of the map unit

### **30SL01—Sleetmute gravelly silt loam, 25 to 45 percent slopes**

*Elevation:* 197 to 548 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

#### ***30-Sleetmute and similar soils***

*Extent:* 60 to 80 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* shoulders, backslopes, summits

*Slope shape:* convex, linear

*Slope range:* 25 to 45 percent, north to north aspects

*Parent material:* gravelly residuum

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oe—0 to 3 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

Bw—6 to 19 inches; very gravelly silt loam, high saturated hydraulic conductivity

C—19 to 60 inches; gravelly silt loam, high saturated hydraulic conductivity

### ***Minor Components***

30-Rock outcrop: 5 to 15 percent of the map unit

30-Sleetmute family and similar soils: 10 to 15 percent of the map unit

30-Waterfall family and similar soils: 5 to 10 percent of the map unit

### **30TE01—Liscum-Huffman families complex, 0 to 2 percent slopes**

*Elevation:* 197 to 249 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 95 to 135 days

#### ***30-Liscum family and similar soils***

*Extent:* 10 to 70 percent of the map unit

*Landform:* terraces, depressions on depressions on flood plains

*Slope shape:* concave, linear

*Slope range:* 0 to 2 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 13.9 inches

*Representative Profile:*

Oi—0 to 6 inches; stratified peat to silt loam, very high saturated hydraulic conductivity

Oe—6 to 15 inches; mucky peat, moderately high saturated hydraulic conductivity

Ag—15 to 26 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Cg—26 to 60 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

### **30-Huffman family and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* depressions on flood plains, thermokarst depressions on terraces

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 8.7 inches

*Representative Profile:*

Oi—0 to 53 inches; peat, high saturated hydraulic conductivity

Cg—53 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Gerstle family, flood plains, and similar soils: 0 to 15 percent of the map unit

### **30TQ01—Teggiuq peat, 3 to 8 percent slopes**

*Elevation:* 92 to 299 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### **30-Teggiuq and similar soils**

*Extent:* 75 to 90 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes, footslopes

*Slope shape:* linear

*Slope range:* 3 to 8 percent, south to northeast aspects

*Parent material:* mossy organic material over coarse-silty cryoturbate over permanently frozen coarse-silty eolian deposits

*Depth to permafrost:* 26 to 47 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 12.9 inches

*Representative Profile:*

Oi—0 to 8 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—8 to 10 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

Ajj—10 to 22 inches; very dark brown silt loam, moderately high saturated hydraulic conductivity

Bjj—22 to 30 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Cg—30 to 46 inches; black and dark brown silt loam, moderately low saturated hydraulic conductivity

Cf—46 to 60 inches; black and dark brown permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

30-Nunaniq and similar soils: 5 to 15 percent of the map unit

30-Itulilikfamily and similar soils: 5 to 10 percent of the map unit

### **30TQ02—Teggiuq peat, 8 to 15 percent**

*Elevation:* 95 to 804 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 95 to 135 days

### ***30-Teggiuq and similar soils***

*Extent:* 75 to 90 percent of the map unit

*Landform:* mountains

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 8 to 15 percent, south to northeast aspects

*Parent material:* mossy organic material over coarse-silty cryoturbate over permanently frozen coarse-silty eolian deposits

*Depth to permafrost:* 26 to 47 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 12.9 inches

*Representative Profile:*

- Oi—0 to 8 inches; very dark brown peat, very high saturated hydraulic conductivity
- Oe—8 to 10 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity
- Ajj—10 to 22 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity
- Bjj—22 to 30 inches; very dark brown silt loam, moderately high saturated hydraulic conductivity
- Cg—30 to 46 inches; very dark brown silt loam, moderately low saturated hydraulic conductivity
- Cf—46 to 60 inches; very dark brown permanently frozen material, very low saturated hydraulic conductivity

***Minor Components***

- 30-Nunaniq and similar soils: 5 to 15 percent of the map unit
- 30-Itulilikfamily and similar soils: 5 to 10 percent of the map unit

**30TQ03—Teggiuq peat, 15 to 25 percent**

- Elevation:* 92 to 479 feet
- Mean annual precipitation:* 15 to 26 inches
- Frost-free period:* 95 to 135 days

***30-Teggiuq and similar soils***

- Extent:* 75 to 85 percent of the map unit
- Landform:* mountains
- Position on slope:* footslopes, backslopes
- Slope shape:* linear
- Slope range:* 15 to 25 percent, south to northeast aspects
- Parent material:* mossy organic material over coarse-silty cryoturbate over permanently frozen coarse-silty eolian deposits
- Depth to permafrost:* 26 to 47 inches
- Hazard of erosion (organic mat removed):* by water—severe; by wind—slight
- Runoff:* high
- Drainage class:* poorly drained
- Flooding:* none
- Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches
- Ponding:* none
- Available water capacity (approximate):* 12.9 inches
- Representative Profile:*
  - Oi—0 to 8 inches; dark grayish brown peat, very high saturated hydraulic conductivity
  - Oe—8 to 10 inches; black and dark brown mucky peat, high saturated hydraulic conductivity
  - Ajj—10 to 22 inches; very dark brown silt loam, moderately high saturated hydraulic conductivity
  - Bjj—22 to 30 inches; dark grayish brown silt loam, moderately high saturated hydraulic conductivity
  - Cg—30 to 46 inches; dark grayish brown silt loam, moderately low saturated hydraulic conductivity

Cf—46 to 60 inches; dark grayish brown permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

30-Nunaniq and similar soils: 10 to 15 percent of the map unit  
30-Itulilikfamily and similar soils: 5 to 10 percent of the map unit

### **30VL01—Village lands**

*Elevation:* 49 to 180 feet  
*Mean annual precipitation:* 15 to 18 inches  
*Frost-free period:* 95 to 135 days

### ***30-Urban land***

*Extent:* 65 to 90 percent of the map unit  
*Landform:* terraces  
*Slope range:* 0 to 3 percent

### ***Minor Components***

30-Takotna family and similar soils: 10 to 15 percent of the map unit  
30-Nunaniq and similar soils: 0 to 15 percent of the map unit  
30-Uknavikfamily and similar soils: 0 to 5 percent of the map unit

### **30VL02—Village lands, airstrip**

*Elevation:* 49 to 180 feet  
*Mean annual precipitation:* 15 to 18 inches  
*Frost-free period:* 95 to 135 days

### ***30-Urban land***

*Extent:* 100 percent of the map unit  
*Landform:* terraces  
*Slope range:* 0 to 1 percent

### **38DP01—Teggiuq family, 0 to 2 percent slopes**

*Elevation:* 49 to 148 feet  
*Mean annual precipitation:* 18 to 20 inches  
*Frost-free period:* 115 to 146 days

### ***38-Teggiuq family and similar soils***

*Extent:* 70 to 90 percent of the map unit  
*Landform:* terraces, flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 24 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Cjj—24 to 31 inches; dark grayish brown silt, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### **Minor Components**

38-Uknavikfamily and similar soils: 0 to 15 percent of the map unit

38-Water: 0 to 15 percent of the map unit

### **38DP03—Uknavikfamily, 0 to 2 percent slopes**

*Elevation:* 49 to 161 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

#### **38-Uknavikfamily and similar soils**

*Extent:* 70 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

Oe—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Peede family and similar soils: 5 to 15 percent of the map unit

38-Takotna family and similar soils: 0 to 15 percent of the map unit

**38ES01—Uknavikfamily, 25 to 100 percent slopes**

*Elevation:* 49 to 102 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

***38-Uknavikfamily, steep, and similar soils***

*Extent:* 85 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 25 to 100 percent, west to northeast aspects

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam,  
high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

***Minor Components***

38-Teggiuq family, steep, and similar soils: 5 to 15 percent of the map unit

**38FP01—Salchaket-Happy families complex, 0 to 2 percent slopes**

*Elevation:* 98 to 115 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

***38-Salchaket family and similar soils***

*Extent:* 45 to 75 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 11.3 inches

*Representative Profile:*

- Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity
- A—1 to 3 inches; silt loam, high saturated hydraulic conductivity
- C1—3 to 28 inches; stratified silt loam to moderately decomposed plant material, moderately high saturated hydraulic conductivity
- C2—28 to 60 inches; stratified silt loam to gravelly sandy loam, moderately high saturated hydraulic conductivity

**38-Happy family and similar soils**

*Extent:* 15 to 45 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium over permanently frozen sandy and silty alluvium

*Depth to permafrost:* 14 to 30 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 4.8 inches

*Representative Profile:*

- Oe—0 to 6 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—6 to 11 inches; silt loam, high saturated hydraulic conductivity
- Cg—11 to 22 inches; stratified muck to very fine sandy loam, moderately high saturated hydraulic conductivity
- Cf—22 to 60 inches; permanently frozen stratified very fine sandy loam to silt loam, very low saturated hydraulic conductivity

**Minor Components**

38-Uknavikfamily and similar soils: 0 to 10 percent of the map unit

**38FP02—Uknavikfamily-Karheen family complex, 0 to 2 percent slopes**

*Elevation:* 49 to 121 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

**38-Uknavikfamily and similar soils**

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***38-Karheen family and similar soils***

*Extent:* 30 to 45 percent of the map unit

*Landform:* depressions on flood plains, depressions on terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium and/or silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 24.3 inches

*Representative Profile:*

Oi—0 to 7 inches; peat, very high saturated hydraulic conductivity

Oe—7 to 22 inches; mucky peat, high saturated hydraulic conductivity

Oa—22 to 60 inches; muck, moderately high saturated hydraulic conductivity

### ***Minor Components***

38-Kuslinad family and similar soils: 0 to 15 percent of the map unit

38-Water: 5 to 15 percent of the map unit

38-Ulesqiirluni and similar soils: 0 to 15 percent of the map unit

### **38FP03—Takotna family-Noonku family complex, 0 to 3 percent slopes**

*Elevation:* 56 to 253 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

### ***38-Takotna family, frequent flooding, and similar soils***

*Extent:* 55 to 75 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 13.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; silt loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **38-Noonku family, frequent flooding, and similar soils**

*Extent:* 25 to 45 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

C/O—0 to 7 inches; silt loam, moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity

Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

### **38TE01—Teggiuq family**

*Elevation:* 49 to 213 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

### **38-Teggiuq family and similar soils**

*Extent:* 75 to 90 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.5 inches

*Representative Profile:*

Oi—0 to 7 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Oe—7 to 14 inches; black and dark brown mucky peat, high saturated hydraulic conductivity

A—14 to 18 inches; dark grayish brown very fine sandy loam, high saturated hydraulic conductivity

Bjj—18 to 31 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### ***Minor Components***

38-Karheen family and similar soils: 10 to 25 percent of the map unit

38-Uknavik family and similar soils: 0 to 10 percent of the map unit

### **38TE03—Inmachuk-Teggiuq families complex, 0 to 3 percent slopes**

*Elevation:* 112 to 190 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

#### ***38-Inmachuk family and similar soils***

*Extent:* 45 to 60 percent of the map unit

*Landform:* flood plains, terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 24 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Cjj—24 to 31 inches; dark grayish brown silt, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### **38-Teggiuq family and similar soils**

*Extent:* 40 to 55 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.5 inches

*Representative Profile:*

Oi—0 to 7 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Oe—7 to 14 inches; black and dark brown mucky peat, high saturated hydraulic conductivity

A—14 to 18 inches; dark grayish brown very fine sandy loam, high saturated hydraulic conductivity

Bjj—18 to 31 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### **Minor Components**

38-Karheen family and similar soils: 0 to 10 percent of the map unit

### **38UL01—Ulesqiirluni silt, 0 to 1 percent slopes**

*Elevation:* 49 to 184 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

### **38-Ulesqiirluni and similar soils**

*Extent:* 60 to 90 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

- Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—2 to 6 inches; stratified silt to highly decomposed plant material, high saturated hydraulic conductivity
- C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity
- Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity
- C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

***Minor Components***

- 38-Uknavikfamily and similar soils: 10 to 15 percent of the map unit
- 38-Ulet and similar soils: 0 to 15 percent of the map unit
- 38-Urban land: 0 to 10 percent of the map unit

**38UL02—Ulesqiirluni-Uknavikfamily complex, 0 to 3 percent slopes**

*Elevation:* 49 to 341 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

***38-Ulesqiirluni and similar soils***

*Extent:* 45 to 65 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 1 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

- Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—2 to 6 inches; stratified silt to highly decomposed plant material, high saturated hydraulic conductivity
- C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity
- Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity
- C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

***38-Uknavikfamily and similar soils***

*Extent:* 25 to 45 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Water: 5 to 15 percent of the map unit

38-Ulet and similar soils: 5 to 10 percent of the map unit

### **38UT01—Ulet silt loam, 0 to 3 percent slopes**

*Elevation:* 33 to 148 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

### **38-Ulet and similar soils**

*Extent:* 70 to 90 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* sandy and silty alluvium over sandy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very low

*Drainage class:* somewhat poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 19.5 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; silt loam, high saturated hydraulic conductivity

C1—6 to 9 inches; stratified sand to very gravelly silt loam, very high saturated hydraulic conductivity

C2—9 to 60 inches; stratified gravelly sand to fine sand to silt, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Beehive family and similar soils: 5 to 15 percent of the map unit

38-Ulesqiirluni and similar soils: 5 to 15 percent of the map unit

### **38VL02—Village lands, airstrip**

#### ***38-Urban land***

*Extent:* 100 percent of the map unit

*Landform:* terraces

### **D29FPA—Boreal Flood Plains**

*Elevation:* 98 to 289 feet

*Mean annual precipitation:* 16 to 19 inches

*Frost-free period:* 80 to 125 days

#### ***29-Boreal forest, loamy flood plains and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—18 to 47 inches

*Ponding:* none

*Available water capacity (approximate):* 13.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; silt loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

#### ***29-Boreal scrub, loamy flood plains, frequent flooding, and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 14.2 inches

*Representative Profile:*

C1—0 to 10 inches; stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

Cg—10 to 17 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

2C2—17 to 39 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—39 to 60 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

29-Boreal forest, gravelly flood plains and similar soils: 5 to 15 percent of the map unit

29-Boreal forest, sandy flood plains and similar soils: 5 to 15 percent of the map unit

29-Boreal grass, loamy depressions, occasional flooding, and similar soils: 0 to 8 percent of the map unit

29-Boreal sedge, loamy depressions, occasional flooding, and similar soils: 5 to 7 percent of the map unit

### **D29FPB—Boreal Flood Plains, sandy**

*Elevation:* 72 to 367 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

#### **29-Boreal forest, sandy flood plains and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent, north to north aspects

*Parent material:* sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches

*Representative Profile:*

O<sub>i</sub>—0 to 2 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 10 inches; fine sandy loam, moderately high saturated hydraulic conductivity

C1—10 to 20 inches; silt loam, high saturated hydraulic conductivity

2C2—20 to 60 inches; stratified sand to fine sandy loam, high saturated hydraulic conductivity

### ***29-Boreal forest, loamy flood plains and similar soils***

*Extent:* 25 to 35 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 13.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; silt loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

29-Boreal forest, gravelly flood plains and similar soils: 5 to 15 percent of the map unit

29-Boreal scrub, loamy depressions and similar soils: 0 to 10 percent of the map unit

29-Boreal scrub, silty flood plains and similar soils: 0 to 15 percent of the map unit

### **D29FPC—Boreal Flood Plains, wet**

*Elevation:* 66 to 325 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

### ***29-Boreal grass, loamy flood plains and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains, terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* coarse-loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 8.6 inches

*Representative Profile:*

Oe—0 to 2 inches; mucky peat, moderately high saturated hydraulic conductivity

Bg—2 to 9 inches; silt loam, high saturated hydraulic conductivity

Cg1—9 to 18 inches; silt loam, high saturated hydraulic conductivity

Cg2—18 to 60 inches; stratified silt loam to very fine sand, high saturated hydraulic conductivity

***29-Boreal scrub, loamy depressions and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

C/O—0 to 7 inches; stratified silt loam to moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity

Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

***Minor Components***

29-Boreal forest, loamy flood plains and similar soils: 5 to 15 percent of the map unit

29-Boreal scrub, loamy flood plains, Interior Lowlands, and similar soils: 0 to 15 percent of the map unit

29-Boreal sedge, loamy depressions and similar soils: 0 to 10 percent of the map unit

**D29FPE—Boreal Flood Plains, low**

*Elevation:* 66 to 305 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

***29-Boreal scrub, loamy flood plains, frequent flooding, and similar soils***

*Extent:* 45 to 70 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.2 inches

*Representative Profile:*

C1—0 to 10 inches; stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

Cg—10 to 17 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

2C2—17 to 39 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—39 to 60 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

**29-Boreal forest, loamy flood plains, frequent flooding, and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 13.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; silt loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

**Minor Components**

29-Boreal forest, sandy flood plains, frequent flooding, and similar soils: 5 to 15 percent of the map unit

29-Boreal forest, silty flood plains and similar soils: 0 to 10 percent of the map unit

**D29FPG—Boreal Flood Plains, very wet**

*Elevation:* 79 to 276 feet

*Mean annual precipitation:* 16 to 16 inches

*Frost-free period:* 80 to 125 days

**29-Boreal grass, organic depressions and similar soils**

*Extent:* 45 to 60 percent of the map unit

*Landform:* thermokarst depressions on terraces, depressions on flood plains

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—0 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 8.7 inches  
*Representative Profile:*  
     Oi—0 to 53 inches; peat, high saturated hydraulic conductivity  
     Cg—53 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***29-Boreal scrub, loamy depressions and similar soils***

*Extent:* 25 to 50 percent of the map unit  
*Landform:* depressions on flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 1 percent  
*Parent material:* loamy alluvium  
*Hazard of erosion (organic mat removed):* by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* occasional  
*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches  
*Ponding:* occasional  
*Available water capacity (approximate):* 11.5 inches  
*Representative Profile:*  
     C/O—0 to 7 inches; stratified silt loam to moderately decomposed plant material, high saturated hydraulic conductivity  
     Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity  
     Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

29-Boreal forest, loamy flood plains and similar soils: 5 to 10 percent of the map unit  
 29-Water: 0 to 10 percent of the map unit

### **D29TEA—Boreal Eolian Terraces**

*Elevation:* 125 to 295 feet  
*Mean annual precipitation:* 16 to 16 inches  
*Frost-free period:* 80 to 125 days

### ***29-Boreal woodland, loamy terraces and similar soils***

*Extent:* 20 to 60 percent of the map unit  
*Landform:* sand sheets, terraces  
*Position on slope:* footslopes, toeslopes  
*Slope shape:* linear  
*Slope range:* 0 to 5 percent  
*Parent material:* organic material over loamy eolian deposits over loamy alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* low  
*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 9.6 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

AE—4 to 12 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—12 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

BC—22 to 43 inches; silt loam, moderately high saturated hydraulic conductivity

2C—43 to 60 inches; fine sandy loam, high saturated hydraulic conductivity

### ***29-Boreal scrub, loamy flood plains, rare flooding, and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 14.2 inches

*Representative Profile:*

C1—0 to 10 inches; stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

Cg—10 to 17 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

C2—17 to 39 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C3—39 to 60 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

### ***29-Boreal woodland, sandy terraces and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* hills, terraces, sand sheets

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 1 to 35 percent, west to east aspects

*Parent material:* coarse-loamy eolian deposits over eolian sands

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

- E—5 to 8 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- Bs—8 to 12 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- BC—12 to 30 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- 2C—30 to 60 inches; sand, high saturated hydraulic conductivity

### **Minor Components**

29-Boreal sedge, organic depressions and similar soils: 5 to 10 percent of the map unit

### **D29TEB—Boreal Terraces, wet**

*Elevation:* 66 to 531 feet

*Mean annual precipitation:* 16 to 19 inches

*Frost-free period:* 80 to 125 days

#### **29-Boreal grass, organic flood plains, rare flooding, and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material and/or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 22.6 inches

*Representative Profile:*

Oe—0 to 47 inches; stratified mucky peat to silt loam, moderately high saturated hydraulic conductivity

Oi—47 to 51 inches; stratified peat to silt loam, high saturated hydraulic conductivity

Cg—51 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

#### **29-Boreal scrub, loamy depressions and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—7 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

C/O—0 to 7 inches; stratified silt loam to moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—7 to 31 inches; fine sandy loam, high saturated hydraulic conductivity

Cg2—31 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

### **Minor Components**

29-Boreal taiga, silty plains and similar soils: 5 to 15 percent of the map unit

29-Boreal forest, loamy flood plains, rare flooding, and similar soils: 0 to 10 percent of the map unit

29-Water: 0 to 10 percent of the map unit

## **D29TEC—Boreal Peatland Terraces**

*Elevation:* 66 to 417 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

### **29-Boreal grass, organic flood plains, rare flooding, and similar soils**

*Extent:* 35 to 65 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material and/or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 22.6 inches

*Representative Profile:*

Oe—0 to 47 inches; stratified mucky peat to silt loam, moderately high saturated hydraulic conductivity

Oi—47 to 51 inches; stratified peat to silt loam, high saturated hydraulic conductivity

Cg—51 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

### **29-Boreal scrub, organic depressions and similar soils**

*Extent:* 35 to 65 percent of the map unit

*Landform:* depressions on plains, thermokarst depressions on terraces

*Slope shape:* concave, linear

*Slope range:* 1 to 5 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium and/or loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 24.2 inches

*Representative Profile:*

Oi—0 to 18 inches; peat, high saturated hydraulic conductivity

Oa—18 to 60 inches; muck, moderately low saturated hydraulic conductivity

### ***Minor Components***

29-Boreal sedge, sandy depressions and similar soils: 0 to 15 percent of the map unit

29-Boreal woodland, silty terraces and similar soils: 3 to 15 percent of the map unit

29-Water: 2 to 5 percent of the map unit

### **D30FAC—Boreal Fans, wet**

*Elevation:* 98 to 148 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 80 to 125 days

#### ***30-Boreal forest, loamy fans and similar soils***

*Extent:* 25 to 55 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 1 to 3 percent, east to south aspects

*Parent material:* loamy slope alluvium and/or gravelly slope alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—12 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

Oe—5 to 9 inches; moderately decomposed plant material, high saturated hydraulic conductivity

Bw—9 to 12 inches; stratified silt loam to mucky peat, moderately high saturated hydraulic conductivity

Bg—12 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### ***30-Boreal scrub, loamy fans and similar soils***

*Extent:* 25 to 55 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 3 to 20 percent, northeast to west aspects

*Parent material:* grassy organic material over loamy slope alluvium over permanently frozen loamy slope alluvium

*Depth to permafrost:* 22 to 35 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* none

*Available water capacity (approximate):* 6 inches

*Representative Profile:*

Oi—0 to 8 inches; peat, very high saturated hydraulic conductivity

Oe—8 to 15 inches; mucky peat, high saturated hydraulic conductivity

Ag—15 to 17 inches; stratified silt loam to mucky peat, high saturated hydraulic conductivity

Bjg—17 to 22 inches; gravelly silt loam, high saturated hydraulic conductivity

Cf—22 to 60 inches; permanently frozen very gravelly silt loam, very low saturated hydraulic conductivity

### ***30-Boreal forest, loamy terraces and similar soils***

*Extent:* 5 to 15 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent, north to north aspects

*Parent material:* loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A/E—4 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 16 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—16 to 47 inches; fine sandy loam, moderately high saturated hydraulic conductivity

C—47 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

### ***30-Boreal sedge, loamy depressions, occasional flooding, and similar soils***

*Extent:* 5 to 15 percent of the map unit

*Landform:* terraces, depressions on depressions on plains

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 14.1 inches

*Representative Profile:*

Oi/A—0 to 1 inch; stratified peat to silt loam, very high saturated hydraulic conductivity

A—1 to 10 inches; silt loam, high saturated hydraulic conductivity

Cg1—10 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

Cg2—37 to 60 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

### **D30FAD—Boreal Eolian Fans, wet**

*Elevation:* 82 to 328 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 80 to 125 days

#### **30-Boreal scrub, gravelly drainages, outwash fan, and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* drainageways on plains, drainageways on hills

*Position on slope:* backslopes, footslopes

*Slope shape:* linear

*Slope range:* 3 to 22 percent

*Parent material:* sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—1 to 14 inches; June-Sept.—1 inch

*Ponding:* none

*Available water capacity (approximate):* 4.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

Cg1—1 to 28 inches; stratified silt loam to coarse sand, high saturated hydraulic conductivity

Cg2—28 to 60 inches; stratified very gravelly coarse sand to gravelly silt loam, very high saturated hydraulic conductivity

#### **30-Boreal scrub, loamy drainages, outwash fan, and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* drainageways on hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear

*Slope range:* 2 to 12 percent

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* none

*Available water capacity (approximate):* 7.4 inches

*Representative Profile:*

Oe—0 to 8 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—8 to 10 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bg—10 to 25 inches; loamy sand, moderately high saturated hydraulic conductivity

Cg—25 to 60 inches; stratified silt loam to gravelly loamy coarse sand, very high saturated hydraulic conductivity

### **Minor Components**

30-Boreal sedge, organic depressions, outwash fan, and similar soils: 10 to 15 percent of the map unit

30-Boreal woodland, silty eolian slopes, outwash fan, and similar soils: 5 to 15 percent of the map unit

## **D30FPA—Boreal Flood Plains**

*Elevation:* 98 to 361 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 80 to 125 days

### **30-Boreal forest, loamy flood plains and similar soils**

*Extent:* 45 to 65 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **30-Boreal forest, sandy flood plains and similar soils**

*Extent:* 20 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent, north to north aspects

*Parent material:* sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 3 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity

A—1 to 3 inches; fine sandy loam, moderately high saturated hydraulic conductivity

C1—3 to 41 inches; stratified sand to highly decomposed plant material, high saturated hydraulic conductivity

C2—41 to 60 inches; stratified sand to fine sandy loam, high saturated hydraulic conductivity

### **Minor Components**

30-Boreal scrub, gravelly flood plains and similar soils: 5 to 15 percent of the map unit

30-Boreal woodland, loamy terraces and similar soils: 0 to 15 percent of the map unit

30-Boreal scrub, silty flood plains, frequent flooding, and similar soils: 0 to 10 percent of the map unit

### **D30FPD—Boreal Flood Plains, wet**

*Elevation:* 131 to 361 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 80 to 125 days

#### **30-Boreal sedge, loamy depressions and similar soils**

*Extent:* 40 to 65 percent of the map unit

*Landform:* depressions on depressions on plains, terraces

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 14.1 inches

*Representative Profile:*

Oi—0 to 1 inch; stratified peat to silt loam, very high saturated hydraulic conductivity

A—1 to 10 inches; silt loam, high saturated hydraulic conductivity

Cg1—10 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

Cg2—37 to 60 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

### ***30-Boreal forest, loamy flood plains and similar soils***

*Extent:* 20 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### ***30-Water***

*Extent:* 15 to 25 percent of the map unit

*Landform:* streams, rivers, lakes

### ***Minor Components***

30-Boreal forest, sandy flood plains and similar soils: 10 to 15 percent of the map unit

### **D30FPE—Boreal Flood Plains, low**

*Elevation:* 69 to 213 feet

*Mean annual precipitation:* 16 to 17 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal scrub, gravelly flood plains, frequent flooding, and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 1.1 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity

C1—1 to 4 inches; loamy fine sand, high saturated hydraulic conductivity

C2—4 to 47 inches; stratified very gravelly sand to very gravelly loamy fine sand, high saturated hydraulic conductivity

C3—47 to 60 inches; stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, high saturated hydraulic conductivity

### ***30-Boreal scrub, silty flood plains, frequent flooding, and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains, hills

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—4 to 14 inches

*Ponding:* none

*Available water capacity (approximate):* 16 inches

*Representative Profile:*

OeC—0 to 10 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—10 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal forest, loamy flood plains and similar soils: 0 to 15 percent of the map unit

30-Boreal sedge, loamy depressions, frequent flooding, and similar soils: 5 to 10 percent of the map unit

### **D30FPF—Boreal Flood Plains, moist**

*Elevation:* 82 to 262 feet

*Mean annual precipitation:* 18 to 19 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal scrub, silty flood plains and similar soils***

*Extent:* 30 to 65 percent of the map unit

*Landform:* flood plains, hills

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—4 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 16 inches

*Representative Profile:*

OeC—0 to 10 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—10 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **30-Boreal forest, loamy flood plains and similar soils**

*Extent:* 20 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Boreal forest, silty terraces, occasional flooding, and similar soils: 0 to 15 percent of the map unit

30-Boreal sedge, organic depressions and similar soils: 0 to 8 percent of the map unit

30-Boreal scrub, gravelly flood plains and similar soils: 0 to 10 percent of the map unit

### **D30FPH—Boreal Flood Plains and Terraces, common permafrost**

*Elevation:* 98 to 295 feet

*Mean annual precipitation:* 15 to 18 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal scrub, loamy flood plains and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium over permanently frozen sandy and silty alluvium

*Depth to permafrost:* 22 to 43 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oe—0 to 6 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—6 to 11 inches; silt loam, high saturated hydraulic conductivity

Bg—11 to 18 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

Cg—18 to 30 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

Cf—30 to 60 inches; permanently frozen stratified very fine sandy loam to silt loam, low saturated hydraulic conductivity

### ***30-Boreal scrub, silty flood plains and similar soils***

*Extent:* 20 to 30 percent of the map unit

*Landform:* hills, flood plains

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—4 to 14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 16 inches

*Representative Profile:*

OeC—0 to 10 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—10 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***30-Boreal forest, loamy flood plains and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.5 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Boreal scrub, organic depressions, occasional flooding, and similar soils: 10 to 15 percent of the map unit

30-Boreal taiga, loamy terraces and similar soils: 5 to 15 percent of the map unit

30-Boreal forest, loamy terraces and similar soils: 0 to 10 percent of the map unit

### **D30HIA—Boreal Eolian Hills**

*Elevation:* 98 to 1,132 feet

*Mean annual precipitation:* 15 to 21 inches

*Frost-free period:* 80 to 124 days

#### **30-Boreal forest, silty eolian slopes and similar soils**

*Extent:* 30 to 40 percent of the map unit

*Landform:* hills, alluvial fans, terraces

*Position on slope:* shoulders, toeslopes, backslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 38 percent, north to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.1 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

BC—11 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

C—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **30-Boreal forest, loamy eolian slopes and similar soils**

*Extent:* 20 to 30 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 11.6 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

### **30-Boreal forest, gravelly colluvial slopes and similar soils**

*Extent:* 15 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 12 to 110 percent, northwest to northeast aspects

*Parent material:* loamy colluvium and/or loess over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.8 inches

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—3 to 5 inches; silt loam, high saturated hydraulic conductivity

Bs—5 to 14 inches; very gravelly loam, high saturated hydraulic conductivity

Bw—14 to 20 inches; very gravelly loam, high saturated hydraulic conductivity

C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### **Minor Components**

30-Boreal woodland, silty eolian slopes and similar soils: 5 to 10 percent of the map unit

30-Boreal woodland, loamy eolian slopes and similar soils: 5 to 10 percent of the map unit

30-Boreal taiga, loamy colluvial slopes and similar soils: 0 to 8 percent of the map unit

30-Subalpine woodland, loamy colluvial slopes and similar soils: 0 to 7 percent of the map unit

30-Boreal scrub, loamy drainages and similar soils: 0 to 5 percent of the map unit

### **D30HIB—Boreal Eolian Hills, common permafrost**

*Elevation:* 98 to 1,181 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 80 to 124 days

#### ***30-Boreal forest, silty eolian slopes and similar soils***

*Extent:* 25 to 40 percent of the map unit

*Landform:* hills, alluvial fans, terraces

*Position on slope:* toeslopes, backslopes, shoulders

*Slope shape:* convex, linear

*Slope range:* 4 to 38 percent, north to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.1 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

BC—11 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

C—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### ***30-Boreal taiga, loamy eolian slopes and similar soils***

*Extent:* 25 to 40 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear

*Slope range:* 1 to 23 percent, north to north aspects

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 24 to 57 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

Oi—0 to 8 inches; peat, very high saturated hydraulic conductivity

Oe—8 to 11 inches; mucky peat, high saturated hydraulic conductivity

A—11 to 16 inches; silt loam, moderately high saturated hydraulic conductivity  
 B<sub>jj</sub>—16 to 31 inches; silt loam, moderately high saturated hydraulic conductivity  
 C<sub>f</sub>—31 to 60 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***30-Boreal scrub-sedge, loamy eolian slopes and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear

*Slope range:* 2 to 12 percent, west to northeast aspects

*Parent material:* organic material over coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—6 to 12 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

O<sub>e</sub>—0 to 4 inches; mucky peat, high saturated hydraulic conductivity

A—4 to 8 inches; silt loam, moderately high saturated hydraulic conductivity

B<sub>wg</sub>—8 to 12 inches; silt loam, moderately high saturated hydraulic conductivity

C<sub>g</sub>—12 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal forest, gravelly colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Boreal forest, loamy eolian slopes and similar soils: 5 to 15 percent of the map unit

30-Boreal scrub, sandy eolian slopes and similar soils: 0 to 7 percent of the map unit

30-Boreal scrub, organic depressions and similar soils: 0 to 3 percent of the map unit

## **D30MTA—Boreal and Subalpine Eolian Mountains**

*Elevation:* 92 to 1,640 feet

*Mean annual precipitation:* 15 to 23 inches

*Frost-free period:* 80 to 124 days

### ***30-Boreal forest, loamy eolian slopes and similar soils***

*Extent:* 25 to 50 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* shoulders, backslopes, summits

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 11.6 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

### ***30-Boreal woodland, loamy eolian slopes and similar soils***

*Extent:* 15 to 50 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* toeslopes, backslopes, summits, shoulders

*Slope shape:* linear, convex

*Slope range:* 3 to 40 percent, north to northeast aspects

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.2 inches

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

Oe—2 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—4 to 8 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—8 to 10 inches; silt loam, moderately high saturated hydraulic conductivity

C—10 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***30-Subalpine scrub, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 16 to 60 percent, north to northeast aspects

*Parent material:* gravelly colluvium over gravelly residuum

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.6 inches

*Representative Profile:*

Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; extremely gravelly loam, high saturated hydraulic conductivity  
 Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity  
 C1—16 to 24 inches; extremely gravelly silt loam, high saturated hydraulic conductivity  
 2C2—24 to 60 inches; gravelly sandy loam, high saturated hydraulic conductivity

### **Minor Components**

30-Subalpine scrub-sedge, silty eolian slopes and similar soils: 3 to 15 percent of the map unit  
 30-Alpine scrub, gravelly residual slopes and similar soils: 0 to 5 percent of the map unit  
 30-Boreal scrub, loamy drainages and similar soils: 2 to 5 percent of the map unit  
 30-Rock outcrop, sedimentary: 0 to 8 percent of the map unit

### **D30MTB—Boreal and Subalpine Eolian Mountains, common permafrost**

*Elevation:* 98 to 1,132 feet  
*Mean annual precipitation:* 15 to 23 inches  
*Frost-free period:* 80 to 124 days

#### **30-Boreal woodland, loamy eolian slopes and similar soils**

*Extent:* 20 to 35 percent of the map unit  
*Landform:* hills, terraces  
*Position on slope:* backslopes, shoulders, toeslopes, summits  
*Slope shape:* linear, convex  
*Slope range:* 3 to 40 percent, north to northeast aspects  
*Parent material:* coarse-loamy eolian deposits  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 13.2 inches  
*Representative Profile:*  
 Oi—0 to 2 inches; slightly decomposed plant material, very high saturated hydraulic conductivity  
 Oe—2 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity  
 A—4 to 8 inches; silt loam, moderately high saturated hydraulic conductivity  
 Bw—8 to 10 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—10 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### **30-Boreal taiga, loamy eolian slopes and similar soils**

*Extent:* 25 to 35 percent of the map unit  
*Landform:* hills, terraces  
*Position on slope:* toeslopes, footslopes  
*Slope shape:* linear

*Slope range:* 1 to 23 percent, north to north aspects

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 24 to 57 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

Oi—0 to 8 inches; peat, very high saturated hydraulic conductivity

Oe—8 to 11 inches; mucky peat, high saturated hydraulic conductivity

A—11 to 16 inches; silt loam, moderately high saturated hydraulic conductivity

Bjj—16 to 31 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***30-Boreal forest, loamy eolian slopes and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 11.6 inches

*Representative Profile:*

Oe—0 to 4 inches; slightly decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal woodland, loamy colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Subalpine scrub, gravelly colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Alpine scrub, gravelly residual slopes and similar soils: 0 to 5 percent of the map unit

30-Boreal forest, loamy drainages and similar soils: 2 to 5 percent of the map unit

30-Rock outcrop, sedimentary: 0 to 8 percent of the map unit

## **D30MTC—Boreal and Subalpine Mountains**

*Elevation:* 98 to 1,640 feet

*Mean annual precipitation:* 15 to 23 inches

*Frost-free period:* 80 to 124 days

### ***30-Boreal forest, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 45 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 12 to 110 percent, northwest to northeast aspects

*Parent material:* loamy colluvium and/or loess over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.8 inches

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—3 to 5 inches; silt loam, high saturated hydraulic conductivity

Bs—5 to 14 inches; very gravelly loam, high saturated hydraulic conductivity

Bw—14 to 20 inches; very channery loam, high saturated hydraulic conductivity

C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Boreal woodland, loamy colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, footslopes

*Slope shape:* linear

*Slope range:* 7 to 65 percent, north to north aspects

*Parent material:* loamy slope alluvium over loamy or gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8.9 inches

*Representative Profile:*

Oi—0 to 11 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

AE—11 to 15 inches; silt loam, high saturated hydraulic conductivity

Bs—15 to 18 inches; silt loam, moderately high saturated hydraulic conductivity

2C—18 to 60 inches; gravelly silt loam, high saturated hydraulic conductivity

### ***30-Subalpine scrub, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* shoulders, backslopes, summits

*Slope shape:* convex, linear

*Slope range:* 16 to 60 percent, north to northeast aspects

*Parent material:* gravelly colluvium over gravelly residuum

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.6 inches

*Representative Profile:*

Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; extremely gravelly loam, high saturated hydraulic conductivity

Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity

C1—16 to 24 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

2C2—24 to 60 inches; gravelly sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal taiga, loamy colluvial slopes and similar soils: 0 to 15 percent of the map unit

30-Boreal woodland, loamy eolian slopes and similar soils: 5 to 15 percent of the map unit

30-Rock outcrop, sedimentary: 0 to 8 percent of the map unit

30-Subalpine scrub-sedge, silty eolian slopes and similar soils: 0 to 10 percent of the map unit

30-Boreal scrub, gravelly drainages and similar soils: 0 to 4 percent of the map unit

### **D30MTD—Boreal and Subalpine Mountains, common permafrost**

*Elevation:* 33 to 2,067 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 124 days

#### ***30-Boreal woodland, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 9 to 79 percent, north to north aspects

*Parent material:* gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8.1 inches

*Representative Profile:*

- Oi—0 to 6 inches; slightly decomposed plant material, very high saturated hydraulic conductivity
- E—6 to 8 inches; channery silt loam, high saturated hydraulic conductivity
- Bw—8 to 13 inches; very channery fine sandy loam, high saturated hydraulic conductivity
- BC—13 to 24 inches; extremely channery fine sandy loam, high saturated hydraulic conductivity
- C—24 to 60 inches; extremely channery silt loam, high saturated hydraulic conductivity

**30-Boreal taiga, loamy colluvial slopes and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* footslopes, backslopes

*Slope shape:* concave, linear

*Slope range:* 2 to 29 percent, north to east aspects

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy slope alluvium

*Depth to permafrost:* 22 to 39 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

- Oi—0 to 5 inches; peat, very high saturated hydraulic conductivity
- Oa—5 to 13 inches; muck, moderately low saturated hydraulic conductivity
- Ag—13 to 16 inches; silt loam, high saturated hydraulic conductivity
- Bjgg—16 to 22 inches; silt loam, moderately high saturated hydraulic conductivity
- Cf—22 to 60 inches; permanently frozen silt loam, moderately low saturated hydraulic conductivity

**30-Subalpine scrub, gravelly colluvial slopes and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* convex, linear

*Slope range:* 16 to 60 percent, north to northeast aspects

*Parent material:* gravelly colluvium over gravelly residuum

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.6 inches

*Representative Profile:*

- Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

- A—2 to 6 inches; extremely gravelly loam, high saturated hydraulic conductivity  
 Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity  
 C1—16 to 24 inches; extremely gravelly silt loam, high saturated hydraulic conductivity  
 2C2—24 to 60 inches; gravelly sandy loam, high saturated hydraulic conductivity

### **Minor Components**

- 30-Boreal scrub, loamy colluvial slopes and similar soils: 10 to 15 percent of the map unit  
 30-Boreal forest, gravelly colluvial slopes and similar soils: 5 to 15 percent of the map unit  
 30-Rock outcrop, sedimentary: 3 to 10 percent of the map unit  
 30-Alpine scrub, gravelly residual slopes and similar soils: 0 to 5 percent of the map unit  
 30-Boreal scrub, gravelly drainages and similar soils: 2 to 5 percent of the map unit

### **D30TEA—Boreal Terraces**

- Elevation:* 98 to 427 feet  
*Mean annual precipitation:* 15 to 18 inches  
*Frost-free period:* 80 to 124 days

#### **30-Boreal woodland, sandy terraces and similar soils**

- Extent:* 25 to 45 percent of the map unit  
*Landform:* terraces, sand sheets  
*Slope shape:* linear  
*Slope range:* 1 to 35 percent, north to north aspects  
*Parent material:* coarse-loamy eolian deposits over eolian sands  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate  
*Runoff:* low  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 8 inches  
*Representative Profile:*  
 Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity  
 E—5 to 8 inches; fine sandy loam, moderately high saturated hydraulic conductivity  
 Bs—8 to 12 inches; fine sandy loam, moderately high saturated hydraulic conductivity  
 BC—12 to 30 inches; fine sandy loam, moderately high saturated hydraulic conductivity  
 2C—30 to 60 inches; sand, high saturated hydraulic conductivity

#### **30-Boreal woodland, loamy terraces and similar soils**

- Extent:* 25 to 45 percent of the map unit  
*Landform:* terraces  
*Slope shape:* linear  
*Slope range:* 0 to 5 percent

*Parent material:* organic material over loamy eolian deposits over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.1 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

AE—4 to 12 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—12 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

BC—22 to 43 inches; silt loam, moderately high saturated hydraulic conductivity

2C—43 to 60 inches; fine sandy loam, high saturated hydraulic conductivity

### **30-Boreal woodland, gravelly terraces and similar soils**

*Extent:* 15 to 35 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 5 percent, south to southeast aspects

*Parent material:* silty loess and/or loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.7 inches

*Representative Profile:*

Oi—0 to 7 inches; peat, very high saturated hydraulic conductivity

Oe—7 to 11 inches; mucky peat, high saturated hydraulic conductivity

AE—11 to 16 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—16 to 27 inches; silt loam, moderately high saturated hydraulic conductivity

2C—27 to 60 inches; extremely gravelly sand, high saturated hydraulic conductivity

### **Minor Components**

30-Boreal sedge, loamy depressions and similar soils: 0 to 10 percent of the map unit

30-Boreal taiga, loamy terraces and similar soils: 0 to 5 percent of the map unit

30-Boreal scrub, gravelly drainages and similar soils: 0 to 3 percent of the map unit

### **D30TEB—Boreal Terraces, wet**

*Elevation:* 16 to 377 feet

*Mean annual precipitation:* 17 to 21 inches

*Frost-free period:* 80 to 124 days

### **30-Boreal scrub, silty terraces and similar soils**

*Extent:* 20 to 40 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* mossy organic material over silty alluvium and/or loess over gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.5 inches

*Representative Profile:*

Oi—0 to 4 inches; peat, very high saturated hydraulic conductivity

A—4 to 7 inches; silt loam, high saturated hydraulic conductivity

Oab—7 to 9 inches; muck, moderately low saturated hydraulic conductivity

Cg1—9 to 13 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—13 to 23 inches; silt, moderately high saturated hydraulic conductivity

Cg2—23 to 60 inches; silt, moderately high saturated hydraulic conductivity

### ***30-Boreal sedge, loamy depressions and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* terraces, depressions on depressions on plains

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 14.1 inches

*Representative Profile:*

Oi—0 to 1 inch; stratified slightly decomposed plant material to silt loam, very high saturated hydraulic conductivity

A—1 to 10 inches; silt loam, high saturated hydraulic conductivity

Cg1—10 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

Cg2—37 to 60 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

### ***30-Boreal scrub, organic depressions and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* depressions on hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* concave

*Slope range:* 1 to 5 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 24.6 inches

*Representative Profile:*

Oe1—0 to 39 inches; mucky peat, high saturated hydraulic conductivity

Oi—39 to 47 inches; peat, very high saturated hydraulic conductivity

Oe2—47 to 60 inches; mucky peat, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal forest, loamy terraces and similar soils: 5 to 15 percent of the map unit

30-Boreal scrub-sedge, loamy terraces and similar soils: 5 to 13 percent of the map unit

30-Water: 2 to 10 percent of the map unit

### **D30TEF—Boreal Terraces, extensive permafrost**

*Elevation:* 98 to 492 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 124 days

#### ***30-Boreal scrub-sedge, loamy terraces and similar soils***

*Extent:* 25 to 40 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy eolian deposits

*Depth to permafrost:* 16 to 36 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.1 inches

*Representative Profile:*

Oi—0 to 3 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—3 to 10 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

A—10 to 17 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

C/Ajj—17 to 26 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—26 to 60 inches; black and dark brown permanently frozen material, very low saturated hydraulic conductivity

#### ***30-Boreal scrub, loamy terraces and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* terraces  
*Slope shape:* linear  
*Slope range:* 0 to 8 percent  
*Parent material:* mossy organic material over coarse-loamy cryoturbate and/or permanently frozen coarse-loamy eolian deposits  
*Depth to permafrost:* 16 to 47 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—2 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 10.2 inches  
*Representative Profile:*  
   Oi—0 to 16 inches; peat, very high saturated hydraulic conductivity  
   Oe—16 to 25 inches; mucky peat, high saturated hydraulic conductivity  
   A—25 to 28 inches; silt loam, moderately high saturated hydraulic conductivity  
   C<sub>jj</sub>—28 to 30 inches; silt loam, moderately low saturated hydraulic conductivity  
   Cf—30 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

### **30-Boreal taiga, loamy terraces and similar soils**

*Extent:* 20 to 30 percent of the map unit  
*Landform:* terraces  
*Slope shape:* linear  
*Slope range:* 1 to 7 percent  
*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess  
*Depth to permafrost:* 24 to 56 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6.4 inches  
*Representative Profile:*  
   Oi—0 to 10 inches; black and dark brown peat, very high saturated hydraulic conductivity  
   A—10 to 13 inches; dark grayish brown very fine sandy loam, high saturated hydraulic conductivity  
   B<sub>jj</sub>—13 to 29 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity  
   Cf—29 to 60 inches; black and dark brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### **Minor Components**

30-Boreal scrub, silty terraces and similar soils: 2 to 10 percent of the map unit  
 30-Boreal woodland, loamy terraces and similar soils: 0 to 10 percent of the map unit  
 30-Boreal forest, loamy terraces and similar soils: 0 to 8 percent of the map unit

### **D30TEG—Boreal Peatland Terraces, very wet**

*Elevation:* 98 to 295 feet

*Mean annual precipitation:* 18 to 19 inches

*Frost-free period:* 80 to 124 days

#### **30-Boreal scrub, organic terraces and similar soils**

*Extent:* 50 to 70 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* mossy organic material and/or grassy organic material over silty or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 19.4 inches

*Representative Profile:*

Oi—0 to 24 inches; peat, very high saturated hydraulic conductivity

Oe—24 to 59 inches; mucky peat, high saturated hydraulic conductivity

Oa—59 to 60 inches; muck, moderately low saturated hydraulic conductivity

#### **30-Boreal sedge, loamy depressions and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces, depressions on depressions on plains

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 14.1 inches

*Representative Profile:*

Oi/C—0 to 1 inch; stratified peat to silt loam, very high saturated hydraulic conductivity

A—1 to 10 inches; silt loam, high saturated hydraulic conductivity

Cg1—10 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

Cg2—37 to 60 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

30-Water: 10 to 15 percent of the map unit

30-Boreal sedge, organic depressions and similar soils: 0 to 10 percent of the map unit

**D38FPA—Boreal Flood Plains**

*Elevation:* 52 to 213 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

***38-Boreal forest, silty flood plains, occasional flooding, and similar soils***

*Extent:* 55 to 75 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 1 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; stratified silt loam to highly decomposed plant material, high saturated hydraulic conductivity

C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity

Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity

C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

***38-Boreal scrub, silty flood plains, moderately wet, and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bw—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Boreal forest, silty flood plains, moderately wet, and similar soils: 3 to 7 percent of the map unit

38-Boreal sedge, silty flood plains, wet, and similar soils: 3 to 7 percent of the map unit

### **D38FPB—Boreal Flood Plains, sandy**

*Elevation:* 56 to 213 feet

*Mean annual precipitation:* 19 to 24 inches

*Frost-free period:* 115 to 146 days

#### **38-Boreal forest, sandy flood plains and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.1 inches

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—2 to 8 inches; stratified silt loam to slightly decomposed plant material, high saturated hydraulic conductivity

C1—8 to 39 inches; stratified loamy fine sand to silt loam, high saturated hydraulic conductivity

2C2—39 to 60 inches; stratified sand to loamy fine sand, very high saturated hydraulic conductivity

#### **38-Boreal scrub, silty flood plains and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity  
 Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***38-Boreal scrub, sandy flood plains and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* sandy and silty alluvium over sandy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 9.1 inches

*Representative Profile:*

Oe—0 to 3 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—3 to 7 inches; silt loam, high saturated hydraulic conductivity

C—7 to 60 inches; stratified sand to silt loam, very high saturated hydraulic conductivity

### ***Minor Components***

38-Boreal scrub, silty flood plains, high pH, and similar soils: 0 to 15 percent of the map unit

38-Boreal forest, silty flood plains and similar soils: 0 to 10 percent of the map unit

### **D38FPC—Boreal Flood Plains, wet**

*Elevation:* 62 to 197 feet

*Mean annual precipitation:* 18 to 20 inches

*Frost-free period:* 115 to 146 days

### ***38-Boreal scrub, silty flood plains and similar soils***

*Extent:* 25 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity  
 Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

***38-Boreal sedge, loamy depressions, occasional flooding, and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* depressions on terraces, depressions on flood plains

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* low

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.8 inches

*Representative Profile:*

Oi—0 to 1 inch; stratified peat to silt loam, very high saturated hydraulic conductivity

Cg1—1 to 28 inches; silt loam, moderately high saturated hydraulic conductivity

Cg2—28 to 60 inches; stratified silt loam to loamy very fine sand, moderately high saturated hydraulic conductivity

***38-Boreal grass, organic flood plains and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material and/or loamy alluvium over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 21.1 inches

*Representative Profile:*

Oe—0 to 47 inches; stratified mucky peat to silt loam, high saturated hydraulic conductivity

Oi—47 to 51 inches; stratified peat to silt loam, very high saturated hydraulic conductivity

Cg—51 to 60 inches; fine sandy loam, high saturated hydraulic conductivity

***Minor Components***

38-Boreal forest, silty flood plains and similar soils: 3 to 10 percent of the map unit

**D38FPD—Boreal Flood Plains, moderately wet**

*Elevation:* 56 to 197 feet

*Mean annual precipitation:* 17 to 20 inches

*Frost-free period:* 115 to 146 days

**38-Boreal scrub, silty flood plains and similar soils**

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

**38-Boreal forest, silty flood plains and similar soils**

*Extent:* 30 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 1 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; stratified silt loam to highly decomposed plant material, high saturated hydraulic conductivity

C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity

Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity

C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Boreal scrub, sandy flood plains and similar soils: 5 to 15 percent of the map unit

38-Boreal sedge, organic depressions, occasional flooding, and similar soils: 3 to 10 percent of the map unit

38-Boreal scrub-sedge, loamy terraces, frozen, and similar soils: 0 to 5 percent of the map unit

#### **D38FPE—Boreal Flood Plains, low**

*Elevation:* 72 to 312 feet

*Mean annual precipitation:* 17 to 21 inches

*Frost-free period:* 115 to 146 days

#### **38-Boreal scrub, gravelly flood plains, frequent flooding, and similar soils**

*Extent:* 40 to 70 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 3.6 inches

*Representative Profile:*

C1—0 to 4 inches; loamy fine sand, high saturated hydraulic conductivity

C2—4 to 47 inches; very gravelly loamy coarse sand, very high saturated hydraulic conductivity

C3—47 to 60 inches; stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam, very high saturated hydraulic conductivity

#### **38-Boreal scrub, silty flood plains, frequent flooding, and similar soils**

*Extent:* 20 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

- OeC—0 to 4 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity
- Bg—4 to 22 inches; silt loam, moderately high saturated hydraulic conductivity
- Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

**Minor Components**

38-Boreal forest, silty flood plains, high pH, and similar soils: 5 to 15 percent of the map unit

**D38FPF—Boreal Flood Plains, common permafrost**

*Elevation:* 43 to 351 feet

*Mean annual precipitation:* 18 to 19 inches

*Frost-free period:* 115 to 146 days

**38-Boreal scrub, loamy flood plains, Yukon Delta, and similar soils**

*Extent:* 15 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium over permanently frozen sandy and silty alluvium

*Depth to permafrost:* 22 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—14 inches; June-Sept.—14 to 30 inches

*Ponding:* occasional

*Available water capacity (approximate):* 6.5 inches

*Representative Profile:*

- Oe—0 to 6 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—6 to 11 inches; silt loam, high saturated hydraulic conductivity
- Cg—11 to 30 inches; stratified silt loam to very fine sandy loam, moderately high saturated hydraulic conductivity
- Cf—30 to 60 inches; permanently frozen stratified very fine sandy loam to silt loam, very low saturated hydraulic conductivity

**38-Boreal forest, silty flood plains, moderately wet, and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 1 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; stratified silt loam to highly decomposed plant material, high saturated hydraulic conductivity

C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity

Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity

C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

### ***38-Boreal taiga, organic terraces, rare flooding, and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy cryoturbate over permanently frozen loamy alluvium

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* frequent

*Available water capacity (approximate):* 6.5 inches

*Representative Profile:*

Oi—0 to 20 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—20 to 25 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

Bjj—25 to 32 inches; black and dark brown silt, moderately high saturated hydraulic conductivity

Cf—32 to 60 inches; black and dark brown permanently frozen silt, very low saturated hydraulic conductivity

### ***Minor Components***

38-Boreal sedge, organic depressions, occasional flooding, and similar soils: 2 to 8 percent of the map unit

### **D38HIB—Boreal Eolian Hills, common permafrost**

*Elevation:* 115 to 427 feet

*Mean annual precipitation:* 18 to 18 inches

*Frost-free period:* 115 to 146 days

**38-Boreal scrub, loamy eolian slopes, frozen, wet, and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* shoulders, footslopes, backslopes

*Slope shape:* linear

*Slope range:* 1 to 10 percent

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 30 to 51 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches

*Representative Profile:*

O<sub>i</sub>—0 to 15 inches; peat, very high saturated hydraulic conductivity

A/B<sub>w</sub>—15 to 28 inches; very fine sandy loam, high saturated hydraulic conductivity

B<sub>jj</sub>—28 to 42 inches; very fine sandy loam, high saturated hydraulic conductivity

C<sub>f</sub>—42 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

**38-Boreal woodland, loamy eolian slopes, Yukon-Kuskokwim Coastal Plain, and similar soils**

*Extent:* 20 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders

*Slope shape:* linear, convex

*Slope range:* 2 to 40 percent

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12 inches

*Representative Profile:*

O<sub>e</sub>—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 8 inches; very fine sandy loam, high saturated hydraulic conductivity

B<sub>s</sub>—8 to 11 inches; very fine sandy loam, high saturated hydraulic conductivity

B<sub>w</sub>—11 to 19 inches; very fine sandy loam, high saturated hydraulic conductivity

C—19 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

**38-Boreal scrub-sedge, loamy terraces, frozen, and similar soils**

*Extent:* 15 to 30 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess  
*Depth to permafrost:* 24 to 39 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches  
*Ponding:* none  
*Available water capacity (approximate):* 7.5 inches  
*Representative Profile:*  
     Oi—0 to 7 inches; dark grayish brown peat, very high saturated hydraulic conductivity  
     Oe—7 to 14 inches; black and dark brown mucky peat, high saturated hydraulic conductivity  
     A—14 to 18 inches; dark grayish brown very fine sandy loam, high saturated hydraulic conductivity  
     Bjj—18 to 31 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity  
     Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### **Minor Components**

38-Boreal forest, silty eolian slopes and similar soils: 3 to 10 percent of the map unit  
 38-Boreal sedge, organic depressions and similar soils: 2 to 8 percent of the map unit  
 38-Boreal forest, loamy drainages and similar soils: 2 to 7 percent of the map unit

### **D38TEB—Boreal Peatland Terraces, very wet**

*Elevation:* 75 to 164 feet  
*Mean annual precipitation:* 19 to 19 inches  
*Frost-free period:* 115 to 146 days

#### **38-Boreal sedge, loamy depressions and similar soils**

*Extent:* 35 to 55 percent of the map unit  
*Landform:* depressions on terraces, depressions on flood plains  
*Slope shape:* concave, linear  
*Slope range:* 0 to 1 percent  
*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* low  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—0 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 11.7 inches  
*Representative Profile:*  
     Oi—0 to 1 inch; stratified peat to silt loam, very high saturated hydraulic conductivity  
     A—1 to 7 inches; very fine sandy loam, high saturated hydraulic conductivity

Cg1—7 to 28 inches; silt loam, moderately high saturated hydraulic conductivity  
 Cg2—28 to 60 inches; stratified silt loam to loamy very fine sand, moderately high saturated hydraulic conductivity

### ***38-Boreal sedge, organic depressions and similar soils***

*Extent:* 30 to 50 percent of the map unit  
*Landform:* depressions on plains, thermokarst depressions on plains, thermokarst depressions on hills, depressions on terraces  
*Position on slope:* toeslopes, footslopes  
*Slope shape:* concave, linear  
*Slope range:* 0 to 1 percent  
*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium and/or silty alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* negligible  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—0 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 24.3 inches  
*Representative Profile:*  
 Oi—0 to 7 inches; peat, very high saturated hydraulic conductivity  
 Oe—7 to 22 inches; mucky peat, high saturated hydraulic conductivity  
 Oa—22 to 60 inches; muck, moderately high saturated hydraulic conductivity

### ***38-Boreal forest, silty flood plains, rare flooding, and similar soils***

*Extent:* 5 to 15 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear  
*Slope range:* 1 to 2 percent  
*Parent material:* coarse-silty alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very low  
*Drainage class:* moderately well drained  
*Flooding:* rare  
*Depth to high water table (approximate):* April-Sept.—47 inches  
*Ponding:* none  
*Available water capacity (approximate):* 23.9 inches  
*Representative Profile:*  
 Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity  
 A—2 to 6 inches; stratified silt loam to highly decomposed plant material, high saturated hydraulic conductivity  
 C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity  
 Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity  
 C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

### **38-Boreal scrub-sedge, loamy terraces and similar soils**

*Extent:* 2 to 5 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.5 inches

*Representative Profile:*

Oi—0 to 7 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—7 to 14 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

A—14 to 18 inches; black and dark brown very fine sandy loam, high saturated hydraulic conductivity

Bjj—18 to 31 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; black and dark brown permanently frozen silt, very low saturated hydraulic conductivity

### **38-Water**

*Extent:* 3 to 10 percent of the map unit

*Landform:* rivers, streams, lakes

### **D38TEC—Boreal Terraces, common permafrost**

*Elevation:* 79 to 262 feet

*Mean annual precipitation:* 18 to 19 inches

*Frost-free period:* 115 to 146 days

### **38-Boreal taiga, organic terraces and similar soils**

*Extent:* 45 to 60 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy cryoturbate over permanently frozen loamy alluvium

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* frequent

*Available water capacity (approximate):* 6.5 inches

*Representative Profile:*

Oi—0 to 20 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Oe—20 to 25 inches; black and dark brown mucky peat, high saturated hydraulic conductivity

Bjj—25 to 32 inches; dark grayish brown silt, moderately high saturated hydraulic conductivity

Cf—32 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### ***38-Boreal scrub-sedge, loamy terraces and similar soils***

*Extent:* 25 to 45 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.5 inches

*Representative Profile:*

Oi—0 to 7 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—7 to 14 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

A—14 to 18 inches; black and dark brown very fine sandy loam, high saturated hydraulic conductivity

Bjj—18 to 31 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; black and dark brown permanently frozen silt, very low saturated hydraulic conductivity

### ***38-Boreal dwarf scrub, silty terraces and similar soils***

*Extent:* 5 to 15 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* grassy organic material over loess over silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.5 inches

*Representative Profile:*

Oi—0 to 12 inches; peat, very high saturated hydraulic conductivity  
 A—12 to 13 inches; mucky silt loam, high saturated hydraulic conductivity  
 2Cg—13 to 22 inches; silt loam, moderately high saturated hydraulic conductivity  
 2C1—22 to 47 inches; silt loam, moderately high saturated hydraulic conductivity  
 2C2—47 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

**Minor Components**

38-Boreal sedge, organic depressions and similar soils: 2 to 5 percent of the map unit  
 38-Boreal woodland, loamy eolian slopes and similar soils: 0 to 5 percent of the map unit

**D38TED—Boreal Terraces, common permafrost, wet**

*Elevation:* 56 to 305 feet  
*Mean annual precipitation:* 17 to 19 inches  
*Frost-free period:* 115 to 146 days

**38-Boreal scrub-sedge, loamy terraces and similar soils**

*Extent:* 30 to 50 percent of the map unit  
*Landform:* terraces  
*Slope shape:* linear  
*Slope range:* 0 to 7 percent  
*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess  
*Depth to permafrost:* 24 to 39 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches  
*Ponding:* none  
*Available water capacity (approximate):* 7.5 inches  
*Representative Profile:*

Oi—0 to 7 inches; black and dark brown peat, very high saturated hydraulic conductivity  
 Oe—7 to 14 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity  
 A—14 to 18 inches; black and dark brown very fine sandy loam, high saturated hydraulic conductivity  
 Bjj—18 to 31 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity  
 Cf—31 to 60 inches; black and dark brown permanently frozen silt, very low saturated hydraulic conductivity

**38-Boreal scrub, loamy terraces and similar soils**

*Extent:* 15 to 25 percent of the map unit  
*Landform:* flood plains, terraces  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* very low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.5 inches

*Representative Profile:*

Oa—0 to 4 inches; highly decomposed plant material, moderately high saturated hydraulic conductivity

A—4 to 8 inches; very fine sandy loam, high saturated hydraulic conductivity

Bw—8 to 14 inches; very fine sandy loam, high saturated hydraulic conductivity

BC—14 to 22 inches; silt loam, high saturated hydraulic conductivity

C—22 to 60 inches; silt loam, high saturated hydraulic conductivity

### **38-Boreal scrub-sedge, organic terraces and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* mossy organic material over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 24 inches; dark grayish brown peat, very high saturated hydraulic conductivity

Cjj—24 to 31 inches; dark grayish brown silt, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; dark grayish brown permanently frozen silt, very low saturated hydraulic conductivity

### **Minor Components**

38-Boreal sedge, organic depressions and similar soils: 3 to 10 percent of the map unit

38-Water: 2 to 8 percent of the map unit

38-Boreal forest, silty flood plains and similar soils: 0 to 6 percent of the map unit

## **R29FPC—Interior Alaska Lowlands, Boreal Flood Plains and Terraces**

*Elevation:* 66 to 492 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

### **29-Boreal forest, gravelly flood plains and similar soils**

*Extent:* 40 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent, southwest to southwest aspects

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 9.9 inches

*Representative Profile:*

Oe—0 to 3 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 5 inches; silt loam, high saturated hydraulic conductivity

Bw—5 to 12 inches; silt loam, high saturated hydraulic conductivity

C1—12 to 43 inches; stratified sand to fine sandy loam to silt loam, high saturated hydraulic conductivity

2C2—43 to 60 inches; stratified gravelly sand to fine sandy loam, very high saturated hydraulic conductivity

### **29-Boreal forest, loamy flood plains and similar soils**

*Extent:* 30 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent, north to north aspects

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 12.8 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### **29-Boreal grass, organic flood plains and similar soils**

*Extent:* 15 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material and/or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 19.5 inches

*Representative Profile:*

Oe—0 to 47 inches; stratified mucky peat to silt loam, moderately high saturated hydraulic conductivity

Oi—47 to 51 inches; stratified peat to silt loam, high saturated hydraulic conductivity

Cg—51 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

29-Boreal grass, loamy flood plains and similar soils: 0 to 15 percent of the map unit

29-Boreal scrub, loamy flood plains and similar soils: 0 to 15 percent of the map unit

## **R29FPD—Interior Alaska Lowlands, Innoko River-Paimiut Slough Flood Plains**

*Elevation:* 66 to 295 feet

*Mean annual precipitation:* 15 to 20 inches

*Frost-free period:* 80 to 125 days

### **29-Boreal scrub, loamy flood plains and similar soils**

*Extent:* 45 to 65 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 13.9 inches

*Representative Profile:*

C1—0 to 10 inches; stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

Cg—10 to 17 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

C2—17 to 39 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C3—39 to 60 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

### ***29-Boreal grass, loamy flood plains and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains, terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* coarse-loamy alluvium over sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 9 inches

*Representative Profile:*

Oe—0 to 2 inches; mucky peat, moderately high saturated hydraulic conductivity

Bg—2 to 9 inches; silt loam, high saturated hydraulic conductivity

Cg1—9 to 18 inches; silt loam, high saturated hydraulic conductivity

Cg2—18 to 60 inches; stratified silt loam to very fine sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Boreal forest, loamy flood plains and similar soils: 0 to 5 percent of the map unit

## **R29FPE—Interior Alaska Lowlands, Tundra Flood Plains and Terraces**

*Elevation:* 66 to 328 feet

*Mean annual precipitation:* 15 to 19 inches

*Frost-free period:* 80 to 125 days

### ***29-Boreal scrub, organic flood plains and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* grassy organic material over permanently frozen grassy organic material over permanently frozen loamy alluvium

*Depth to permafrost:* 33 to 45 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.3 inches

*Representative Profile:*

Oe—0 to 28 inches; stratified highly decomposed plant material to slightly decomposed plant material, high saturated hydraulic conductivity

Cg—28 to 33 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—33 to 60 inches; permanently frozen material, very low saturated hydraulic conductivity

***29-Boreal grass, organic flood plains and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material and/or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 19.5 inches

*Representative Profile:*

Oe—0 to 47 inches; stratified mucky peat to silt loam, moderately high saturated hydraulic conductivity

Oi—47 to 51 inches; stratified peat to silt loam, high saturated hydraulic conductivity

Cg—51 to 60 inches; fine sandy loam, moderately high saturated hydraulic conductivity

***Minor Components***

29-Boreal scrub, loamy depressions and similar soils: 4 to 15 percent of the map unit

29-Boreal taiga, silty plains and similar soils: 3 to 10 percent of the map unit

29-Water: 3 to 8 percent of the map unit

**R29FPF—Interior Alaska Lowlands, Holitna River Flood Plains and Terraces**

*Elevation:* 66 to 902 feet

*Mean annual precipitation:* 16 to 21 inches

*Frost-free period:* 80 to 125 days

***29-Boreal forest, gravelly flood plains and similar soils***

*Extent:* 20 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 9.9 inches

*Representative Profile:*

- Oe—0 to 3 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity
- A—3 to 5 inches; silt loam, high saturated hydraulic conductivity
- Bw—5 to 12 inches; silt loam, high saturated hydraulic conductivity
- C1—12 to 43 inches; stratified sand to fine sandy loam to silt loam, high saturated hydraulic conductivity
- 2C2—43 to 60 inches; stratified gravelly sand to fine sandy loam, very high saturated hydraulic conductivity

**29-Boreal woodland, sandy terraces and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces, sand sheets, hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 1 to 35 percent, west to east aspects

*Parent material:* coarse-loamy eolian deposits over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches

*Representative Profile:*

- Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity
- E—5 to 8 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- Bs—8 to 12 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- BC—12 to 30 inches; fine sandy loam, moderately high saturated hydraulic conductivity
- 2C—30 to 60 inches; sand, high saturated hydraulic conductivity

**29-Boreal scrub, loamy flood plains and similar soils**

*Extent:* 15 to 20 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* sandy and silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 13.9 inches

*Representative Profile:*

- C1—0 to 10 inches; stratified silt loam to fine sand, moderately high saturated hydraulic conductivity
- Cg—10 to 17 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

- C2—17 to 39 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity  
 C3—39 to 60 inches; stratified silt loam to fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

- 29-Boreal forest, loamy flood plains and similar soils: 5 to 15 percent of the map unit  
 29-Boreal grass, loamy flood plains and similar soils: 4 to 15 percent of the map unit  
 29-Boreal scrub, silty flood plains and similar soils: 6 to 15 percent of the map unit  
 29-Boreal forest, silty flood plains and similar soils: 0 to 15 percent of the map unit  
 29-Boreal sedge, sandy depressions and similar soils: 0 to 15 percent of the map unit

## **R29PLA—Interior Alaska Lowlands, Boreal Glaciated Plains**

*Elevation:* 210 to 820 feet  
*Mean annual precipitation:* 16 to 17 inches  
*Frost-free period:* 80 to 125 days

### **29-Boreal grass, loamy depressions and similar soils**

*Extent:* 20 to 35 percent of the map unit  
*Landform:* closed depressions on flood plains, closed depressions on terraces  
*Slope shape:* concave, linear  
*Slope range:* 0 to 15 percent  
*Parent material:* coarse-loamy eolian deposits  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* very low  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—0 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 10.7 inches  
*Representative Profile:*  
 Oe—0 to 2 inches; mucky peat, moderately high saturated hydraulic conductivity  
 A—2 to 6 inches; very fine sandy loam, high saturated hydraulic conductivity  
 Bw—6 to 19 inches; very fine sandy loam, high saturated hydraulic conductivity  
 Cg—19 to 59 inches; fine sandy loam, high saturated hydraulic conductivity  
 2C—59 to 60 inches; stratified very fine sandy loam to silt loam, high saturated hydraulic conductivity

### **29-Boreal woodland, silty terraces and similar soils**

*Extent:* 15 to 30 percent of the map unit  
*Landform:* terraces  
*Slope shape:* linear  
*Slope range:* 1 to 3 percent  
*Parent material:* loess  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate  
*Runoff:* medium  
*Drainage class:* somewhat poorly drained  
*Flooding:* occasional  
*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Representative Profile:*

Oe—0 to 10 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—10 to 12 inches; silt, high saturated hydraulic conductivity

Bw—12 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

BCg—22 to 54 inches; silt, moderately high saturated hydraulic conductivity

Cg—54 to 60 inches; silt loam, moderately low saturated hydraulic conductivity

### ***29-Boreal forest, loamy till plains and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* till plains, hills

*Slope shape:* linear

*Slope range:* 4 to 10 percent, north to north aspects

*Parent material:* loamy colluvium and/or coarse-loamy eolian deposits over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 9.7 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, moderately high saturated hydraulic conductivity

E—1 to 2 inches; silt loam, high saturated hydraulic conductivity

2Bs—2 to 5 inches; loam, high saturated hydraulic conductivity

2BC—5 to 15 inches; gravelly loam, high saturated hydraulic conductivity

2C—15 to 60 inches; gravelly loam, high saturated hydraulic conductivity

### ***29-Boreal sedge, organic depressions and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* thermokarst depressions on plains, depressions on terraces

*Slope shape:* concave, linear

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material over loamy alluvium and/or loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 15 inches

*Representative Profile:*

Oi—0 to 7 inches; peat, high saturated hydraulic conductivity

Oe—7 to 17 inches; mucky peat, moderately high saturated hydraulic conductivity

Oa—17 to 28 inches; muck, moderately high saturated hydraulic conductivity

2Cg—28 to 60 inches; fine sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

29-Water: 1 to 5 percent of the map unit

## **R29PLB—Interior Alaska Lowlands, Boreal Peatlands**

*Elevation:* 72 to 705 feet

*Mean annual precipitation:* 15 to 20 inches

*Frost-free period:* 80 to 125 days

### ***29-Boreal sedge, organic plains and similar soils***

*Extent:* 55 to 85 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* mossy organic material and/or grassy organic material

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.5 inches

*Representative Profile:*

Oi—0 to 26 inches; peat, high saturated hydraulic conductivity

W—26 to 39 inches; water

Oe—39 to 60 inches; mucky peat, moderately high saturated hydraulic conductivity

### ***29-Water***

*Extent:* 15 to 25 percent of the map unit

*Landform:* streams, rivers, lakes

*Slope range:* 0 percent

### ***Minor Components***

29-Boreal taiga, silty plains and similar soils: 5 to 15 percent of the map unit

29-Boreal scrub, organic plains and similar soils: 5 to 15 percent of the map unit

29-Boreal woodland, sandy terraces and similar soils: 0 to 5 percent of the map unit

## **R29UPA—Interior Alaska Lowlands, Boreal Glaciated Uplands**

*Elevation:* 72 to 1,050 feet

*Mean annual precipitation:* 16 to 20 inches

*Frost-free period:* 80 to 125 days

### ***29-Boreal scrub, organic plains and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* palsen on plains

*Slope shape:* linear, convex

*Slope range:* 0 to 20 percent, west to northeast aspects

*Parent material:* organic material over permanently frozen organic material and/or permanently frozen loamy alluvium and/or loamy eolian deposits

*Depth to permafrost:* 16 to 41 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 8.6 inches

*Representative Profile:*

Oe—0 to 17 inches; stratified muck to peat, high saturated hydraulic conductivity

A—17 to 22 inches; silt loam, high saturated hydraulic conductivity

C/O—22 to 27 inches; silt loam, mucky peat, high saturated hydraulic conductivity

Cf—27 to 60 inches; permanently frozen material, very low saturated hydraulic conductivity

### ***29-Boreal sedge, organic depressions and similar soils***

*Extent:* 20 to 35 percent of the map unit

*Landform:* depressions on terraces, thermokarst depressions on plains

*Slope shape:* concave, linear

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material over loamy alluvium and/or loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 15 inches

*Representative Profile:*

Oi—0 to 7 inches; peat, high saturated hydraulic conductivity

Oe—7 to 17 inches; mucky peat, moderately high saturated hydraulic conductivity

Oa—17 to 28 inches; muck, moderately high saturated hydraulic conductivity

2Cg—28 to 60 inches; fine sandy loam, high saturated hydraulic conductivity

### ***29-Boreal taiga, silty plains and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* till plains, plains

*Slope shape:* linear

*Slope range:* 1 to 4 percent

*Parent material:* mossy organic material over loess

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* low

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 11.6 inches

*Representative Profile:*

O<sub>i</sub>—0 to 15 inches; peat, high saturated hydraulic conductivity

A—15 to 20 inches; silt, high saturated hydraulic conductivity

Cg<sub>1</sub>—20 to 28 inches; silt, moderately high saturated hydraulic conductivity

Cg<sub>2</sub>—28 to 60 inches; silt, moderately high saturated hydraulic conductivity

**Minor Components**

29-Boreal forest, loamy till plains and similar soils: 3 to 12 percent of the map unit

29-Boreal forest, silty plains and similar soils: 2 to 8 percent of the map unit

29-Water: 0 to 3 percent of the map unit

**R29UPB—Interior Alaska Lowlands, Boreal Uplands**

*Elevation:* 79 to 1,168 feet

*Mean annual precipitation:* 15 to 21 inches

*Frost-free period:* 80 to 125 days

***29-Boreal forest, silty eolian slopes and similar soils***

*Extent:* 15 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes, footslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 25 percent, west to northeast aspects

*Parent material:* loess over gravelly colluvium derived from limestone

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Representative Profile:*

O<sub>e</sub>—0 to 4 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—4 to 5 inches; silt loam, high saturated hydraulic conductivity

Bw—5 to 15 inches; silt loam, high saturated hydraulic conductivity

BC—15 to 24 inches; silt loam, high saturated hydraulic conductivity

2C—24 to 60 inches; very stony silt loam, moderately high saturated hydraulic conductivity

***29-Boreal taiga, silty eolian slopes and similar soils***

*Extent:* 15 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, toeslopes

*Slope shape:* linear

*Slope range:* 1 to 8 percent, north to north aspects

*Parent material:* mossy organic material over loess

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 11.2 inches

*Representative Profile:*

Oe—0 to 10 inches; mucky peat, moderately high saturated hydraulic conductivity

Bg—10 to 33 inches; mucky silt, high saturated hydraulic conductivity

Cg—33 to 60 inches; silt, moderately high saturated hydraulic conductivity

### ***29-Subalpine woodland, silty colluvial slopes and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders

*Slope shape:* convex

*Slope range:* 5 to 12 percent, south to north aspects

*Parent material:* herbaceous organic material over loess over gravelly colluvium derived from limestone

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.9 inches

*Representative Profile:*

Oi—0 to 10 inches; peat, high saturated hydraulic conductivity

Oe—10 to 12 inches; mucky peat, moderately high saturated hydraulic conductivity

A—12 to 19 inches; silt loam, high saturated hydraulic conductivity

Bw—19 to 35 inches; silt, high saturated hydraulic conductivity

C—35 to 57 inches; silt loam, high saturated hydraulic conductivity

Oab—57 to 59 inches; muck, moderately low saturated hydraulic conductivity

2C—59 to 60 inches; gravelly silt loam, high saturated hydraulic conductivity

### ***Minor Components***

29-Boreal scrub, loamy depressions and similar soils: 15 to 20 percent of the map unit

29-Boreal sedge, organic depressions and similar soils: 5 to 15 percent of the map unit

## **R29UPC—Interior Alaska Lowlands, Boreal Holitna Lowland Sand Sheet**

*Elevation:* 197 to 427 feet

*Mean annual precipitation:* 15 to 17 inches

*Frost-free period:* 80 to 125 days

### ***29-Boreal woodland, sandy terraces and similar soils***

*Extent:* 35 to 55 percent of the map unit

*Landform:* terraces, sand sheets, hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 1 to 12 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over eolian sands

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—5 to 8 inches; fine sandy loam, moderately high saturated hydraulic conductivity

Bs—8 to 12 inches; fine sandy loam, moderately high saturated hydraulic conductivity

BC—12 to 30 inches; fine sandy loam, moderately high saturated hydraulic conductivity

2C—30 to 60 inches; sand, high saturated hydraulic conductivity

### **29-Boreal forest, sandy terraces and similar soils**

*Extent:* 30 to 40 percent of the map unit

*Landform:* terraces, sand sheets

*Slope shape:* linear

*Slope range:* 1 to 45 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.8 inches

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, high saturated hydraulic conductivity

E—2 to 4 inches; silt loam, moderately high saturated hydraulic conductivity

Bs—4 to 6 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

2C1—22 to 50 inches; fine sandy loam, moderately high saturated hydraulic conductivity

2C2—50 to 60 inches; sand, high saturated hydraulic conductivity

### **Minor Components**

29-Boreal grass, loamy depressions and similar soils: 5 to 15 percent of the map unit

29-Boreal sedge, organic depressions and similar soils: 5 to 15 percent of the map unit

## **R29WAA—Interior Alaska Lowlands, Water**

### **29-Water**

*Extent:* 0 to 100 percent of the map unit

*Landform:* lakes, rivers, streams

## **R30FPA—Yukon-Kuskokwim Highlands, Boreal Flood Plains and Terraces**

*Elevation:* 66 to 984 feet

*Mean annual precipitation:* 15 to 23 inches

*Frost-free period:* 80 to 125 days

### **30-Boreal forest, gravelly flood plains and similar soils**

*Extent:* 15 to 55 percent of the map unit

*Landform:* flood plains on mountains

*Position on slope:* toeslopes

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 7.3 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—4 to 13 inches; silt loam, high saturated hydraulic conductivity

Bw—13 to 25 inches; fine sandy loam, high saturated hydraulic conductivity

C—25 to 39 inches; stratified sand to fine sandy loam to silt loam, high saturated hydraulic conductivity

2C—39 to 60 inches; extremely gravelly sand, very high saturated hydraulic conductivity

### **30-Boreal forest, loamy flood plains and similar soils**

*Extent:* 15 to 45 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* coarse-loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 21.2 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 3 inches; very fine sandy loam, high saturated hydraulic conductivity

C1—3 to 28 inches; stratified moderately decomposed plant material to silt loam to fine sand, moderately high saturated hydraulic conductivity

C2—28 to 60 inches; stratified very fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

### ***30-Boreal scrub, gravelly flood plains and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—26 inches

*Ponding:* none

*Available water capacity (approximate):* 1.7 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity

C1—1 to 4 inches; loamy fine sand, high saturated hydraulic conductivity

C2—4 to 47 inches; stratified very gravelly sand to very gravelly loamy fine sand, high saturated hydraulic conductivity

C3—47 to 60 inches; stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, high saturated hydraulic conductivity

### ***30-Boreal scrub, silty terraces and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* mossy organic material over silty alluvium and/or loess over gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.4 inches

*Representative Profile:*

Oi—0 to 4 inches; peat, very high saturated hydraulic conductivity

A—4 to 7 inches; silt loam, high saturated hydraulic conductivity

Oab—7 to 9 inches; muck, moderately low saturated hydraulic conductivity

Cg1—9 to 13 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—13 to 23 inches; silt, moderately high saturated hydraulic conductivity

Cg2—23 to 60 inches; silt, moderately high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal sedge, organic depressions and similar soils: 0 to 10 percent of the map unit

30-Boreal taiga, loamy terraces and similar soils: 0 to 25 percent of the map unit

### **R30HIA—Yukon-Kuskokwim Highlands, Boreal Hills**

*Elevation:* 98 to 820 feet

*Mean annual precipitation:* 17 to 21 inches

*Frost-free period:* 80 to 125 days

#### **30-Boreal forest, loamy eolian slopes and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.9 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

#### **30-Boreal taiga, loamy eolian slopes and similar soils**

*Extent:* 20 to 30 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear

*Slope range:* 1 to 23 percent, north to north aspects

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 24 to 57 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.3 inches

*Representative Profile:*

Oi—0 to 8 inches; peat, very high saturated hydraulic conductivity

Oe—8 to 11 inches; mucky peat, high saturated hydraulic conductivity

A—11 to 16 inches; silt loam, moderately high saturated hydraulic conductivity

Bjj—16 to 31 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***30-Boreal scrub, organic depressions and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* depressions on hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* concave

*Slope range:* 1 to 5 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 23.3 inches

*Representative Profile:*

Oe1—0 to 39 inches; mucky peat, high saturated hydraulic conductivity

Oi—39 to 47 inches; peat, very high saturated hydraulic conductivity

Oe2—47 to 60 inches; mucky peat, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal scrub, loamy drainages and similar soils: 5 to 15 percent of the map unit

30-Boreal scrub, loamy eolian slopes and similar soils: 5 to 15 percent of the map unit

30-Boreal woodland, loamy eolian slopes and similar soils: 5 to 15 percent of the map unit

## **R30HID—Yukon-Kuskokwim Highlands, Kulukbuk Hills**

*Elevation:* 148 to 1,837 feet

*Mean annual precipitation:* 16 to 21 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal forest, silty colluvial slopes and similar soils***

*Extent:* 20 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear, convex

*Slope range:* 12 to 35 percent, northeast to west aspects

*Parent material:* loess over gravelly colluvium derived from limestone

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 13.2 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—4 to 12 inches; cobbly silt loam, high saturated hydraulic conductivity

Bw—12 to 20 inches; cobbly silt loam, high saturated hydraulic conductivity  
 C—20 to 60 inches; cobbly silt loam, high saturated hydraulic conductivity

### ***30-Boreal forest, silty eolian slopes, rocky, and similar soils***

*Extent:* 20 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 25 percent, west to northeast aspects

*Parent material:* loess over gravelly colluvium derived from limestone

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—4 to 5 inches; silt loam, high saturated hydraulic conductivity

Bw—5 to 15 inches; silt loam, high saturated hydraulic conductivity

BC—15 to 24 inches; silt loam, high saturated hydraulic conductivity

2C—24 to 60 inches; very stony silt loam, moderately high saturated hydraulic conductivity

### ***30-Subalpine woodland, silty colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders

*Slope shape:* convex

*Slope range:* 5 to 12 percent, south to north aspects

*Parent material:* herbaceous organic material over loess over gravelly colluvium derived from limestone

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.9 inches

*Representative Profile:*

Oi—0 to 10 inches; peat, high saturated hydraulic conductivity

Oe—10 to 12 inches; mucky peat, moderately high saturated hydraulic conductivity

A—12 to 19 inches; silt loam, high saturated hydraulic conductivity

Bw—19 to 35 inches; silt, high saturated hydraulic conductivity

C—35 to 57 inches; silt loam, high saturated hydraulic conductivity

Oab—57 to 59 inches; muck, moderately low saturated hydraulic conductivity

2C—59 to 60 inches; gravelly silt loam, high saturated hydraulic conductivity

### **Minor Components**

- 30-Boreal taiga, silty eolian slopes and similar soils: 10 to 15 percent of the map unit
- 30-Boreal forest, silty drainages and similar soils: 0 to 7 percent of the map unit
- 30-Boreal scrub, gravelly residual slopes and similar soils: 5 to 15 percent of the map unit
- 30-Subalpine dwarf scrub, gravelly residual slopes and similar soils: 3 to 15 percent of the map unit
- 30-Rock outcrop, limestone: 0 to 5 percent of the map unit

### **R30MTA—Yukon-Kuskokwim Highlands, Boreal Low Sedimentary Mountains**

*Elevation:* 197 to 873 feet

*Mean annual precipitation:* 15 to 20 inches

*Frost-free period:* 80 to 125 days

#### **30-Boreal forest, silty eolian slopes and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* hills, alluvial fans, terraces

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 38 percent, north to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.8 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

BC—11 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

C—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

#### **30-Boreal forest, loamy eolian slopes and similar soils**

*Extent:* 20 to 35 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.9 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

### **30-Boreal woodland, gravelly colluvial slopes and similar soils**

*Extent:* 15 to 30 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 9 to 79 percent, north to north aspects

*Parent material:* gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.7 inches

*Representative Profile:*

Oi—0 to 6 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—6 to 8 inches; channery silt loam, high saturated hydraulic conductivity

Bw—8 to 13 inches; very channery fine sandy loam, high saturated hydraulic conductivity

BC—13 to 24 inches; extremely channery fine sandy loam, high saturated hydraulic conductivity

C—24 to 60 inches; extremely channery silt loam, high saturated hydraulic conductivity

### **Minor Components**

30-Boreal scrub, loamy drainages and similar soils: 5 to 15 percent of the map unit

30-Boreal scrub, silty colluvial slopes and similar soils: 0 to 15 percent of the map unit

30-Boreal woodland, silty eolian slopes and similar soils: 2 to 15 percent of the map unit

30-Subalpine scrub, gravelly colluvial slopes and similar soils: 0 to 10 percent of the map unit

### **R30MTB—Yukon-Kuskokwim Highlands, Boreal and Subalpine Low Mountains**

*Elevation:* 98 to 1,968 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal taiga, loamy colluvial slopes and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* footslopes, backslopes

*Slope shape:* concave, linear

*Slope range:* 2 to 29 percent, north to east aspects

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy slope alluvium

*Depth to permafrost:* 22 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7 inches

*Representative Profile:*

Oi—0 to 5 inches; peat, very high saturated hydraulic conductivity

Oa—5 to 13 inches; muck, moderately low saturated hydraulic conductivity

Ag—13 to 16 inches; silt loam, high saturated hydraulic conductivity

Bjig—16 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—22 to 60 inches; permanently frozen silt loam, moderately low saturated hydraulic conductivity

### ***30-Boreal forest, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 12 to 110 percent, northwest to northeast aspects

*Parent material:* loamy colluvium and/or loess over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6 inches

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—3 to 5 inches; silt loam, high saturated hydraulic conductivity

Bs—5 to 14 inches; very gravelly loam, high saturated hydraulic conductivity

Bw—14 to 20 inches; very channery loam, high saturated hydraulic conductivity

C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Boreal scrub, loamy eolian slopes and similar soils***

*Extent:* 5 to 25 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 1 to 40 percent, southwest to north aspects  
*Parent material:* coarse-loamy eolian deposits  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 12.7 inches  
*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity  
 A/E—1 to 3 inches; silt loam, high saturated hydraulic conductivity  
 Bhs—3 to 6 inches; silt loam, high saturated hydraulic conductivity  
 Bw—6 to 32 inches; silt loam, moderately high saturated hydraulic conductivity  
 C—32 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***30-Subalpine forest, gravelly residual slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit  
*Landform:* hills, mountains  
*Position on slope:* backslopes, shoulders  
*Slope shape:* concave, linear, convex  
*Slope range:* 4 to 50 percent, northwest to northeast aspects  
*Parent material:* gravelly residuum  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 60 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6.1 inches  
*Representative Profile:*

Oi—0 to 4 inches; slightly decomposed plant material, very high saturated hydraulic conductivity  
 A—4 to 7 inches; very gravelly silt loam, high saturated hydraulic conductivity  
 Bw—7 to 14 inches; very gravelly silt loam, high saturated hydraulic conductivity  
 C—14 to 60 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

### ***30-Subalpine scrub, loamy colluvial slopes and similar soils***

*Extent:* 15 to 20 percent of the map unit  
*Landform:* swales on hills, drainageways on hills  
*Position on slope:* backslopes  
*Slope shape:* linear  
*Slope range:* 2 to 45 percent, north to west aspects  
*Parent material:* loamy colluvium over gravelly colluvium  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate  
*Runoff:* medium  
*Drainage class:* moderately well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—39 inches  
*Ponding:* none

*Available water capacity (approximate):* 9.9 inches

*Representative Profile:*

Oe—0 to 3 inches; moderately decomposed plant material, high saturated hydraulic conductivity

AE—3 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

Bw1—5 to 10 inches; silt loam, moderately high saturated hydraulic conductivity

2Bw2—10 to 20 inches; very gravelly silt loam, high saturated hydraulic conductivity

2C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal forest, loamy eolian slopes and similar soils: 10 to 15 percent of the map unit

30-Alpine scrub-sedge, loamy colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Alpine scrub, gravelly residual slopes and similar soils: 2 to 15 percent of the map unit

30-Rock outcrop, sedimentary: 0 to 10 percent of the map unit

30-Boreal forest, gravelly flood plains and similar soils: 1 to 8 percent of the map unit

## **R30MTC—Yukon-Kuskokwim Highlands, Boreal and Subalpine Mountains**

*Elevation:* 131 to 3,182 feet

*Mean annual precipitation:* 15 to 26 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal forest, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 12 to 110 percent, northwest to northeast aspects

*Parent material:* loamy colluvium and/or loess over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6 inches

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—3 to 5 inches; silt loam, high saturated hydraulic conductivity

Bs—5 to 14 inches; very gravelly loam, high saturated hydraulic conductivity

Bw—14 to 20 inches; very channery loam, high saturated hydraulic conductivity

C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Boreal scrub, silty colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes, footslopes

*Slope shape:* concave

*Slope range:* 0 to 1 percent

*Parent material:* grassy organic material over loamy alluvium over sandy and silty alluvium

*Depth to paralithic bedrock:* 30 to 49 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.4 inches

*Representative Profile:*

Oi—0 to 7 inches; stratified peat to silt loam, very high saturated hydraulic conductivity

Oa—7 to 9 inches; muck, moderately low saturated hydraulic conductivity

A—9 to 13 inches; silt loam, high saturated hydraulic conductivity

C—13 to 22 inches; silt loam, high saturated hydraulic conductivity

2C—22 to 41 inches; very gravelly silt loam, moderately high saturated hydraulic conductivity

2Cr—41 to 60 inches; cobbles, very high saturated hydraulic conductivity

### ***30-Subalpine woodland, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* summits, backslopes, shoulders

*Slope shape:* linear, convex

*Slope range:* 5 to 46 percent, northwest to northeast aspects

*Parent material:* gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 6 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

AE—6 to 7 inches; gravelly very fine sandy loam, high saturated hydraulic conductivity

Bw—7 to 15 inches; very gravelly very fine sandy loam, high saturated hydraulic conductivity

BC—15 to 22 inches; gravelly silt loam, high saturated hydraulic conductivity

C—22 to 60 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

### ***30-Boreal taiga, loamy colluvial slopes and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* footslopes, backslopes

*Slope shape:* concave, linear

*Slope range:* 2 to 29 percent, north to east aspects

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy slope alluvium

*Depth to permafrost:* 22 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7 inches

*Representative Profile:*

Oi—0 to 5 inches; peat, very high saturated hydraulic conductivity

Oa—5 to 13 inches; muck, moderately low saturated hydraulic conductivity

Ag—13 to 16 inches; silt loam, high saturated hydraulic conductivity

Bjig—16 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—22 to 60 inches; permanently frozen silt loam, moderately low saturated hydraulic conductivity

### ***Minor Components***

30-Alpine dwarf scrub, gravelly residual slopes and similar soils: 5 to 15 percent of the map unit

30-Alpine herbaceous, gravelly colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Boreal scrub, gravelly drainages and similar soils: 5 to 10 percent of the map unit

30-Rock outcrop, sedimentary: 5 to 10 percent of the map unit

30-Subalpine woodland, loamy colluvial slopes and similar soils: 5 to 15 percent of the map unit

## **R30MTD—Yukon-Kuskokwim Highlands, Subalpine and Alpine Glaciated Igneous Mountains**

*Elevation:* 164 to 4,049 feet

*Mean annual precipitation:* 18 to 30 inches

*Frost-free period:* 80 to 125 days

### ***30-Alpine herbaceous, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 5 to 27 percent, southwest to northeast aspects

*Parent material:* loess and/or silty colluvium over gravelly colluvium

*Depth to paralithic bedrock:* 16 to 31 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 3.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; silt loam, moderately high saturated hydraulic conductivity

2Bw—4 to 20 inches; very gravelly silt loam, high saturated hydraulic conductivity

2C—20 to 28 inches; very gravelly silt loam, high saturated hydraulic conductivity

2R—28 to 60 inches; bedrock, very low saturated hydraulic conductivity

### ***30-Rock outcrop, igneous***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains

### ***30-Subalpine woodland, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills

*Position on slope:* summits, backslopes

*Slope shape:* linear, convex

*Slope range:* 5 to 46 percent, northwest to northeast aspects

*Parent material:* gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 6 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

AE—6 to 7 inches; gravelly very fine sandy loam, high saturated hydraulic conductivity

Bw—7 to 15 inches; gravelly very fine sandy loam, high saturated hydraulic conductivity

BC—15 to 22 inches; gravelly silt loam, high saturated hydraulic conductivity

C—22 to 60 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

### ***30-Alpine dwarf scrub, gravelly till slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains

*Position on slope:* summits, shoulders

*Slope shape:* convex, linear

*Slope range:* 2 to 12 percent, northeast to south aspects

*Parent material:* gravelly till

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 8.6 inches

*Representative Profile:*

Oi—0 to 4 inches; moderately decomposed plant material, very high saturated hydraulic conductivity

AE—4 to 11 inches; gravelly highly organic silt loam, moderately high saturated hydraulic conductivity

Bhs—11 to 21 inches; cobbly silt loam, high saturated hydraulic conductivity

BC—21 to 31 inches; cobbly silt loam, high saturated hydraulic conductivity

C—31 to 60 inches; very cobbly silt loam, high saturated hydraulic conductivity

### **Minor Components**

30-Subalpine scrub, gravelly till slopes and similar soils: 10 to 15 percent of the map unit

30-Subalpine scrub, loamy till slopes and similar soils: 10 to 15 percent of the map unit

30-Boreal forest, gravelly flood plains and similar soils: 2 to 8 percent of the map unit

30-Subalpine sedge, organic depressions and similar soils: 0 to 10 percent of the map unit

30-Boreal forest, gravelly colluvial slopes and similar soils: 0 to 5 percent of the map unit

## **R30MTE—Yukon-Kuskokwim Highlands, Subalpine and Alpine Mountains**

*Elevation:* 554 to 3,438 feet

*Mean annual precipitation:* 18 to 29 inches

*Frost-free period:* 80 to 125 days

### **30-Alpine herbaceous, gravelly colluvial slopes and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 5 to 27 percent, southwest to northeast aspects

*Parent material:* loess and/or silty colluvium over gravelly colluvium

*Depth to paralithic bedrock:* 16 to 31 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 3.3 inches

*Representative Profile:*

Oe—0 to 1 inch; moderately decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; silt loam, moderately high saturated hydraulic conductivity  
 2Bw—4 to 20 inches; very gravelly silt loam, high saturated hydraulic conductivity  
 2C—20 to 28 inches; very gravelly silt loam, high saturated hydraulic conductivity  
 2R—28 to 60 inches; bedrock, very low saturated hydraulic conductivity

### ***30-Subalpine scrub, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 16 to 60 percent, north to northeast aspects

*Parent material:* gravelly colluvium over gravelly residuum

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; extremely gravelly loam, high saturated hydraulic conductivity

Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity

C1—16 to 24 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

2C2—24 to 60 inches; gravelly sandy loam, high saturated hydraulic conductivity

### ***30-Subalpine woodland, loamy colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* shoulders, summits, toeslopes, backslopes

*Slope shape:* linear

*Slope range:* 7 to 25 percent, northwest to northeast aspects

*Parent material:* loess over loamy or gravelly colluvium over residuum

*Depth to lithic bedrock:* 20 to 60 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 4.5 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

Bs—4 to 10 inches; silt loam, high saturated hydraulic conductivity

Bw—10 to 12 inches; very fine sandy loam, high saturated hydraulic conductivity

C—12 to 24 inches; gravelly sandy loam, high saturated hydraulic conductivity

R—24 to 60 inches; bedrock, moderately low saturated hydraulic conductivity

### **Minor Components**

30-Rock outcrop, sedimentary: 10 to 15 percent of the map unit

30-Subalpine forest, gravelly residual slopes and similar soils: 10 to 15 percent of the map unit

30-Alpine scrub, gravelly fans and similar soils: 5 to 15 percent of the map unit

30-Boreal forest, gravelly flood plains and similar soils: 0 to 11 percent of the map unit

30-Alpine dwarf scrub, gravelly residual slopes and similar soils: 3 to 8 percent of the map unit

### **R30UPA—Yukon-Kuskokwim Highlands, Boreal Glaciated Uplands**

*Elevation:* 66 to 2,290 feet

*Mean annual precipitation:* 17 to 28 inches

*Frost-free period:* 80 to 125 days

#### **30-Boreal taiga, silty plains and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* plains, terraces

*Slope shape:* linear, concave

*Slope range:* 0 to 10 percent, south to south aspects

*Parent material:* mossy organic material and/or woody organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 20 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.4 inches

*Representative Profile:*

Oi—0 to 9 inches; peat, very high saturated hydraulic conductivity

Oe—9 to 15 inches; mucky peat, high saturated hydraulic conductivity

A—15 to 19 inches; silt, moderately high saturated hydraulic conductivity

Cg—19 to 35 inches; silt, moderately high saturated hydraulic conductivity

Cfg—35 to 60 inches; permanently frozen silt, very low saturated hydraulic conductivity

#### **30-Subalpine woodland, loamy till slopes and similar soils**

*Extent:* 25 to 35 percent of the map unit

*Landform:* plains, hills, mountains

*Position on slope:* backslopes, footslopes

*Slope shape:* linear

*Slope range:* 4 to 10 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over loamy colluvium over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 10.9 inches

*Representative Profile:*

Oe—0 to 7 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—7 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

2Bw—11 to 17 inches; silt loam, high saturated hydraulic conductivity

2BC—17 to 34 inches; gravelly silt loam, high saturated hydraulic conductivity

2C—34 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Subalpine sedge, organic depressions and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* depressions on mountains

*Position on slope:* toeslopes, backslopes

*Slope shape:* concave

*Slope range:* 1 to 5 percent, east to west aspects

*Parent material:* grassy organic material

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 16.2 inches

*Representative Profile:*

Oi—0 to 39 inches; peat, very high saturated hydraulic conductivity

Oe—39 to 60 inches; mucky peat, high saturated hydraulic conductivity

### ***Minor Components***

30-Boreal scrub, loamy drainages and similar soils: 5 to 15 percent of the map unit

30-Alpine dwarf scrub, gravelly residual slopes and similar soils: 0 to 5 percent of the map unit

30-Subalpine dwarf scrub, gravelly residual slopes and similar soils: 0 to 10 percent of the map unit

## **R30UPB—Yukon-Kuskokwim Highlands, Boreal Uplands and Rhyolitic Mountains**

*Elevation:* 138 to 3,117 feet

*Mean annual precipitation:* 15 to 25 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal forest, loamy eolian slopes and similar soils***

*Extent:* 15 to 40 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* summits, shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 20 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.9 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 6 inches; silt loam, high saturated hydraulic conductivity

Bs—6 to 8 inches; silt loam, high saturated hydraulic conductivity

Bw—8 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 37 inches; silt loam, moderately high saturated hydraulic conductivity

2C—37 to 60 inches; very gravelly loam, high saturated hydraulic conductivity

### ***30-Boreal scrub, loamy colluvial slopes and similar soils***

*Extent:* 5 to 15 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 2 to 40 percent, north to north aspects

*Parent material:* loamy loess and/or loamy slope alluvium over gravelly colluvium

*Depth to paralithic bedrock:* 18 to 36 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 4.1 inches

*Representative Profile:*

Oi—0 to 9 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—9 to 12 inches; silt loam, high saturated hydraulic conductivity

Bw—12 to 18 inches; silt loam, high saturated hydraulic conductivity

2BC—18 to 28 inches; channery silt loam, high saturated hydraulic conductivity

2C—28 to 60 inches; very channery silt loam, high saturated hydraulic conductivity

### ***30-Boreal tussock-scrub, loamy plains and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* hills, plains

*Position on slope:* toeslopes

*Slope shape:* convex, linear

*Slope range:* 2 to 8 percent

*Parent material:* mossy organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 22 to 37 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 9 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—9 to 14 inches; black and dark brown mucky peat, high saturated hydraulic conductivity

A—14 to 19 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Bjgg—19 to 24 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Cf—24 to 60 inches; black and dark brown permanently frozen silt loam, very low saturated hydraulic conductivity

### ***30-Rock outcrop, rhyolite***

*Extent:* 5 to 20 percent of the map unit

*Landform:* mountains

### ***Minor Components***

30-Alpine scrub, gravelly residual slopes and similar soils: 0 to 10 percent of the map unit

30-Alpine scrub, loamy colluvial slopes and similar soils: 0 to 15 percent of the map unit

30-Boreal scrub, loamy drainages and similar soils: 2 to 10 percent of the map unit

30-Subalpine forest, gravelly residual slopes and similar soils: 5 to 10 percent of the map unit

30-Subalpine woodland, loamy colluvial slopes and similar soils: 5 to 10 percent of the map unit

## **R30UPC—Yukon-Kuskokwim Highlands, Boreal and Subalpine Glaciated Uplands**

*Elevation:* 427 to 2,218 feet

*Mean annual precipitation:* 19 to 24 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal forest, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 12 to 110 percent, northwest to northeast aspects

*Parent material:* loamy colluvium and/or loess over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 6 inches

*Representative Profile:*

O<sub>i</sub>—0 to 3 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

E—3 to 5 inches; silt loam, high saturated hydraulic conductivity

B<sub>s</sub>—5 to 14 inches; very gravelly loam, high saturated hydraulic conductivity

B<sub>w</sub>—14 to 20 inches; very channery loam, high saturated hydraulic conductivity

C—20 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Subalpine woodland, loamy till slopes and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* mountains, hills, plains

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 4 to 10 percent, north to north aspects

*Parent material:* coarse-loamy eolian deposits over loamy colluvium over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 10.9 inches

*Representative Profile:*

O<sub>e</sub>—0 to 7 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—7 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

2B<sub>w</sub>—11 to 17 inches; silt loam, high saturated hydraulic conductivity

3BC—17 to 34 inches; gravelly silt loam, high saturated hydraulic conductivity

3C—34 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### ***30-Boreal forest, silty eolian slopes and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* hills, alluvial fans, terraces

*Position on slope:* shoulders, backslopes, toeslopes

*Slope shape:* convex, linear

*Slope range:* 4 to 38 percent, north to northeast aspects

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.8 inches

*Representative Profile:*

O<sub>e</sub>—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

B<sub>w</sub>—5 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

BC—11 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

C—30 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **30-Subalpine scrub, gravelly colluvial slopes and similar soils**

*Extent:* 15 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* shoulders, summits, backslopes

*Slope shape:* convex, linear

*Slope range:* 16 to 60 percent, north to northeast aspects

*Parent material:* gravelly colluvium over gravelly residuum

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Representative Profile:*

Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

A—2 to 6 inches; extremely gravelly loam, high saturated hydraulic conductivity

Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity

C1—16 to 24 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

2C2—24 to 60 inches; gravelly sandy loam, high saturated hydraulic conductivity

### **Minor Components**

30-Boreal scrub, gravelly drainages and similar soils: 2 to 8 percent of the map unit

30-Subalpine sedge, organic depressions and similar soils: 0 to 10 percent of the map unit

30-boreal woodland, sandy terraces and similar soils: 3 to 10 percent of the map unit

## **R30UPD—Yukon-Kuskokwim Highlands, Portage Mountain Uplands**

*Elevation:* 82 to 604 feet

*Mean annual precipitation:* 16 to 22 inches

*Frost-free period:* 80 to 125 days

### **30-Boreal tussock-scrub, loamy plains and similar soils**

*Extent:* 20 to 30 percent of the map unit

*Landform:* hills, plains

*Position on slope:* toeslopes

*Slope shape:* convex, linear

*Slope range:* 2 to 8 percent

*Parent material:* mossy organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 22 to 37 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 9 inches; black and dark brown mucky peat, very high saturated hydraulic conductivity

Oe—9 to 14 inches; black and dark brown peat, high saturated hydraulic conductivity

A—14 to 19 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Bjgg—19 to 24 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Cf—24 to 60 inches; black and dark brown permanently frozen silt loam, very low saturated hydraulic conductivity

### ***30-Boreal dwarf scrub, silty plains and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces, plains

*Slope shape:* convex

*Slope range:* 2 to 5 percent

*Parent material:* silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 14 to 35 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches

*Representative Profile:*

Oe—0 to 7 inches; mucky peat, high saturated hydraulic conductivity

A—7 to 9 inches; mucky silt, moderately high saturated hydraulic conductivity

Bjj—9 to 18 inches; silt loam, highly decomposed plant material, moderately high saturated hydraulic conductivity

Cjj—18 to 28 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—28 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

### ***30-Boreal sedge, organic depressions and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* depressions on mountains

*Position on slope:* toeslopes

*Slope shape:* concave

*Slope range:* 1 to 5 percent

*Parent material:* mossy organic material and/or grassy organic material over loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 25.5 inches

*Representative Profile:*

Oi—0 to 11 inches; peat, very high saturated hydraulic conductivity

Oe—11 to 21 inches; mucky peat, high saturated hydraulic conductivity

Oa—21 to 60 inches; muck, moderately low saturated hydraulic conductivity

### ***30-Boreal scrub, loamy terraces and similar soils***

*Extent:* 15 to 20 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* mossy organic material over coarse-loamy cryoturbate and/or permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 16 to 47 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—2 inches

*Ponding:* frequent

*Available water capacity (approximate):* 10 inches

*Representative Profile:*

Oi—0 to 16 inches; peat, very high saturated hydraulic conductivity

Oe—16 to 25 inches; mucky peat, high saturated hydraulic conductivity

A—25 to 28 inches; silt loam, moderately high saturated hydraulic conductivity

Cjj—28 to 43 inches; silt loam, moderately low saturated hydraulic conductivity

Cf—43 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

### ***Minor Components***

30-Boreal scrub, silty colluvial slopes and similar soils: 5 to 15 percent of the map unit

30-Boreal sedge, loamy depressions and similar soils: 5 to 10 percent of the map unit

30-Boreal scrub, sandy eolian slopes and similar soils: 0 to 5 percent of the map unit

30-Water: 2 to 8 percent of the map unit

30-Boreal scrub, gravelly drainages and similar soils: 0 to 5 percent of the map unit

30-Subalpine woodland, loamy colluvial slopes and similar soils: 0 to 5 percent of the map unit

## **R30UPE—Yukon-Kuskokwim Highlands, Tundra Glaciated Uplands**

*Elevation:* 98 to 1,411 feet

*Mean annual precipitation:* 18 to 26 inches

*Frost-free period:* 80 to 125 days

### ***30-Boreal tussock-scrub, loamy plains and similar soils***

*Extent:* 35 to 50 percent of the map unit

*Landform:* plains, hills

*Position on slope:* footslopes, toeslopes, backslopes

*Slope shape:* convex, linear

*Slope range:* 2 to 8 percent

*Parent material:* mossy organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 22 to 37 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 9 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—9 to 14 inches; black and dark brown mucky peat, high saturated hydraulic conductivity

A—14 to 19 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Bjj—19 to 24 inches; black and dark brown silt loam, moderately high saturated hydraulic conductivity

Cf—24 to 60 inches; black and dark brown permanently frozen silt loam, very low saturated hydraulic conductivity

### ***30-Boreal taiga, loamy eolian slopes and similar soils***

*Extent:* 35 to 45 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear

*Slope range:* 1 to 23 percent, north to north aspects

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 24 to 57 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.3 inches

*Representative Profile:*

Oi—0 to 8 inches; peat, very high saturated hydraulic conductivity

Oe—8 to 11 inches; mucky peat, high saturated hydraulic conductivity

A—11 to 16 inches; silt loam, moderately high saturated hydraulic conductivity

Bjj—16 to 31 inches; silt loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

30-Boreal scrub, gravelly drainages and similar soils: 0 to 10 percent of the map unit

30-Boreal sedge, organic depressions and similar soils: 2 to 5 percent of the map unit

30-Subalpine woodland, loamy till slopes and similar soils: 2 to 10 percent of the map unit

### **R30WAA—Yukon-Kuskokwim Highlands, Water**

#### ***30-Water***

*Extent:* 0 to 100 percent of the map unit

*Landform:* lakes, rivers, streams

### **R37MTA—Ahklun Mountains, Subalpine and Alpine Glaciated Mountains**

*Elevation:* 328 to 3,629 feet

*Mean annual precipitation:* 19 to 36 inches

*Frost-free period:* 30 to 60 days

#### ***37-Alpine dwarf scrub, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains

*Position on slope:* backslopes, summits, shoulders

*Slope shape:* convex, linear, concave

*Slope range:* 3 to 65 percent, north to north aspects

*Parent material:* loess over gravelly colluvium

*Depth to paralithic bedrock:* 10 to 60 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 4.9 inches

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—2 to 9 inches; silt loam, moderately high saturated hydraulic conductivity

2Bw1—9 to 15 inches; very channery loam, high saturated hydraulic conductivity

2Bw2—15 to 26 inches; very channery loam, high saturated hydraulic conductivity

2C—26 to 50 inches; very cobbly loam, high saturated hydraulic conductivity

2Cr—50 to 60 inches; cobbles, very high saturated hydraulic conductivity

#### ***37-Alpine scrub, loamy colluvial slopes and similar soils***

*Extent:* 10 to 20 percent of the map unit

*Landform:* solifluction lobes on mountains, mountains

*Position on slope:* footslopes, backslopes

*Slope shape:* linear, concave, convex

*Slope range:* 4 to 35 percent, north to north aspects

*Parent material:* loess and/or loamy slope alluvium and/or loamy solifluction deposits over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* none

*Available water capacity (approximate):* 9.5 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, very high saturated hydraulic conductivity

AE—1 to 3 inches; silt loam, high saturated hydraulic conductivity

Bs—3 to 6 inches; silt loam, moderately high saturated hydraulic conductivity

Bs/Ab—6 to 18 inches; mixed loam, moderately high saturated hydraulic conductivity

BC—18 to 41 inches; loam, moderately high saturated hydraulic conductivity

2C—41 to 60 inches; very cobbly loam, high saturated hydraulic conductivity

### ***37-Subalpine scrub, gravelly colluvial slopes and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, mountains

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear, concave, convex

*Slope range:* 20 to 60 percent, north to northeast aspects

*Parent material:* gravelly slope alluvium over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 10.4 inches

*Representative Profile:*

Oe—0 to 2 inches; channery moderately decomposed plant material, high saturated hydraulic conductivity

OA—2 to 6 inches; extremely gravelly mucky peat, high saturated hydraulic conductivity

Bw—6 to 16 inches; gravelly loam, high saturated hydraulic conductivity

C—16 to 60 inches; extremely gravelly silt loam, high saturated hydraulic conductivity

### ***37-Subalpine woodland, loamy till slopes and similar soils***

*Extent:* 10 to 20 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* footslopes, summits, backslopes

*Slope shape:* linear, convex

*Slope range:* 4 to 10 percent, west to northeast aspects

*Parent material:* loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 9.4 inches

*Representative Profile:*

Oe—0 to 7 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—7 to 11 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—11 to 17 inches; silt loam, moderately high saturated hydraulic conductivity

2BC—17 to 34 inches; gravelly silt loam, high saturated hydraulic conductivity

2C—34 to 60 inches; very gravelly silt loam, high saturated hydraulic conductivity

### **Minor Components**

37-Alpine dwarf scrub, loamy colluvial slopes and similar soils: 2 to 10 percent of the map unit

37-Alpine sedge, organic colluvial slopes and similar soils: 2 to 10 percent of the map unit

37-Boreal woodland, loamy colluvial slopes and similar soils: 2 to 15 percent of the map unit

37-Subalpine scrub, gravelly depressions and similar soils: 2 to 10 percent of the map unit

37-Subalpine scrub, gravelly flood plains and similar soils: 2 to 10 percent of the map unit

37-Subalpine scrub, silty terraces and similar soils: 2 to 15 percent of the map unit

37-Alpine scrub, organic depressions and similar soils: 2 to 8 percent of the map unit

37-Rock outcrop: 2 to 7 percent of the map unit

37-Water: 2 to 7 percent of the map unit

## **R38FPA—Yukon-Kuskokwim Coastal Plain, Aniak River Flood Plain and Terraces**

*Elevation:* 52 to 341 feet

*Mean annual precipitation:* 19 to 23 inches

*Frost-free period:* 115 to 146 days

### **38-Boreal woodland, gravelly terraces and similar soils**

*Soil name:* Typic Haplocryods

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* loess and/or loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

Oi—0 to 7 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

- A—7 to 8 inches; silt loam, high saturated hydraulic conductivity
- 2Bs—8 to 16 inches; silt loam, high saturated hydraulic conductivity
- 2E/A—16 to 17 inches; silt loam, high saturated hydraulic conductivity
- 2Bhs—17 to 22 inches; stratified fine sand to highly organic silt, high saturated hydraulic conductivity
- 3BC—22 to 28 inches; extremely gravelly coarse sand, very high saturated hydraulic conductivity
- 3C—28 to 60 inches; extremely gravelly coarse sand, very high saturated hydraulic conductivity

### ***38-Tundra scrub, gravelly terraces and similar soils***

*Soil name:* Aquic Haplocrypts

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* loess over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 4.8 inches

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—2 to 4 inches; silt loam, high saturated hydraulic conductivity

2Bs—4 to 13 inches; stratified very fine sand to silt, high saturated hydraulic conductivity

3BC—13 to 20 inches; gravelly loam, high saturated hydraulic conductivity

3C—20 to 60 inches; extremely gravelly sand, very high saturated hydraulic conductivity

### ***38-Boreal forest, silty flood plains and similar soils***

*Soil name:* Typic Cryofluvents

*Extent:* 15 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 1 to 2 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—47 inches

*Ponding:* none

*Available water capacity (approximate):* 23.9 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, high saturated hydraulic conductivity

- A—2 to 6 inches; stratified silt loam to highly decomposed plant material, high saturated hydraulic conductivity
- C1—6 to 37 inches; stratified silt loam to silt, moderately high saturated hydraulic conductivity
- Cg—37 to 55 inches; stratified silt loam to slightly decomposed plant material, moderately high saturated hydraulic conductivity
- C2—55 to 60 inches; stratified silt to silt loam, moderately high saturated hydraulic conductivity

### ***38-Boreal scrub, gravelly flood plains and similar soils***

*Soil name:* Aquic Cryorthents  
*Extent:* 15 to 25 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 7 percent  
*Parent material:* sandy and gravelly alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate  
*Runoff:* low  
*Drainage class:* somewhat poorly drained  
*Flooding:* occasional  
*Depth to high water table (approximate):* April-Sept.—26 inches  
*Ponding:* none  
*Available water capacity (approximate):* 3.6 inches  
*Representative Profile:*

- C1—0 to 4 inches; loamy fine sand, high saturated hydraulic conductivity
- C2—4 to 47 inches; very gravelly loamy coarse sand, very high saturated hydraulic conductivity
- C3—47 to 60 inches; stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam, very high saturated hydraulic conductivity

### ***Minor Components***

38-Boreal dwarf scrub, silty terraces and similar soils: 10 to 15 percent of the map unit  
 38-Boreal taiga, silty plains and similar soils: 10 to 15 percent of the map unit  
 38-Tundra scrub, organic depressions and similar soils: 2 to 5 percent of the map unit  
 38-Tundra scrub, organic terraces and similar soils: 2 to 5 percent of the map unit

## **R38FPB—Yukon-Kuskokwim Coastal Plain, Boreal Flood Plains and Terraces**

*Elevation:* 66 to 217 feet  
*Mean annual precipitation:* 19 to 19 inches  
*Frost-free period:* 115 to 146 days

### ***38-Boreal grass, loamy flood plains and similar soils***

*Extent:* 40 to 50 percent of the map unit  
*Landform:* closed depressions on flood plains, closed depressions on terraces  
*Slope shape:* linear, concave  
*Slope range:* 0 to 1 percent  
*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.6 inches

*Representative Profile:*

Oe—0 to 4 inches; mucky peat, high saturated hydraulic conductivity

Cg1—4 to 16 inches; silt loam, high saturated hydraulic conductivity

Cg2—16 to 60 inches; silt loam, high saturated hydraulic conductivity

### ***38-Boreal scrub, silty flood plains and similar soils***

*Extent:* 40 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 8 percent

*Parent material:* coarse-silty alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—moderate

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—14 inches

*Ponding:* occasional

*Available water capacity (approximate):* 11.6 inches

*Representative Profile:*

OeC—0 to 10 inches; stratified moderately decomposed plant material to silt loam, high saturated hydraulic conductivity

Bg—10 to 22 inches; silt loam, moderately high saturated hydraulic conductivity

Cg—22 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

38-Boreal grass, organic flood plains and similar soils: 0 to 10 percent of the map unit

## **R38PLA—Yukon-Kuskokwim Coastal Plain, Boreal Plains**

*Elevation:* 49 to 295 feet

*Mean annual precipitation:* 19 to 20 inches

*Frost-free period:* 115 to 146 days

### ***38-Boreal forest, silty plains and similar soils***

*Extent:* 25 to 40 percent of the map unit

*Landform:* swales on plains

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* herbaceous organic material over loess

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 14.4 inches

*Representative Profile:*

Oe—0 to 5 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—5 to 7 inches; silt, high saturated hydraulic conductivity

C1—7 to 17 inches; silt, moderately high saturated hydraulic conductivity

Bw—17 to 38 inches; silt, moderately high saturated hydraulic conductivity

C2—38 to 60 inches; silt, moderately high saturated hydraulic conductivity

### ***38-Boreal scrub-sedge, loamy terraces and similar soils***

*Extent:* 15 to 30 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* mossy organic material over loamy cryoturbate over permanently frozen loamy loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.7 inches

*Representative Profile:*

Oi—0 to 7 inches; black and dark brown peat, very high saturated hydraulic conductivity

Oe—7 to 14 inches; dark grayish brown mucky peat, high saturated hydraulic conductivity

A—14 to 18 inches; black and dark brown very fine sandy loam, high saturated hydraulic conductivity

Bjj—18 to 31 inches; black and dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; black and dark brown permanently frozen silt, very low saturated hydraulic conductivity

### ***38-Boreal woodland, silty plains and similar soils***

*Extent:* 15 to 25 percent of the map unit

*Landform:* terraces, swales on plains

*Slope shape:* convex

*Slope range:* 2 to 5 percent

*Parent material:* silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 16 to 31 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

- Oe—0 to 4 inches; mucky peat, high saturated hydraulic conductivity
- A—4 to 12 inches; mucky silt, moderately high saturated hydraulic conductivity
- Bjj/Oa—12 to 24 inches; stratified silt to muck, moderately high saturated hydraulic conductivity
- Cf—24 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

**Minor Components**

- 38-Boreal dwarf scrub, silty terraces and similar soils: 5 to 15 percent of the map unit
- 38-Boreal sedge, organic depressions and similar soils: 5 to 15 percent of the map unit
- 38-Water: 2 to 10 percent of the map unit
- 38-Boreal grass, organic flood plains and similar soils: 0 to 5 percent of the map unit

**R38PLB—Yukon-Kuskokwim Coastal Plain, Boreal and Tundra Plains**

- Elevation:* 49 to 689 feet
- Mean annual precipitation:* 19 to 19 inches
- Frost-free period:* 115 to 146 days

**38-Tundra scrub, silty plains and similar soils**

- Extent:* 15 to 45 percent of the map unit
- Landform:* plains, hills
- Slope shape:* concave
- Slope range:* 1 to 3 percent
- Parent material:* coarse-silty cryoturbate over frozen loess
- Depth to permafrost:* 18 to 30 inches
- Hazard of erosion (organic mat removed):* by water—slight; by wind—slight
- Runoff:* high
- Drainage class:* poorly drained
- Flooding:* none
- Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches
- Ponding:* none
- Available water capacity (approximate):* 4.5 inches
- Representative Profile:*
  - Oi—0 to 3 inches; peat, very high saturated hydraulic conductivity
  - A—3 to 9 inches; silt, high saturated hydraulic conductivity
  - Bjj/Oa—9 to 24 inches; stratified silt to muck, moderately high saturated hydraulic conductivity
  - Cf—24 to 60 inches; permanently frozen silt, very low saturated hydraulic conductivity

**38-Boreal woodland, loamy eolian slopes and similar soils**

- Extent:* 15 to 35 percent of the map unit
- Landform:* hills
- Position on slope:* summits, shoulders
- Slope shape:* linear, convex
- Slope range:* 2 to 40 percent

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 60 inches

*Ponding:* none

*Available water capacity (approximate):* 12.3 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity

E—4 to 8 inches; very fine sandy loam, high saturated hydraulic conductivity

Bs—8 to 11 inches; very fine sandy loam, high saturated hydraulic conductivity

Bw—11 to 19 inches; very fine sandy loam, high saturated hydraulic conductivity

C—19 to 60 inches; very fine sandy loam, high saturated hydraulic conductivity

### ***38-Tundra dwarf scrub, silty plains and similar soils***

*Extent:* 15 to 35 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 2 to 4 percent

*Parent material:* mossy organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches

*Representative Profile:*

Oi—0 to 9 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—9 to 12 inches; silt, high saturated hydraulic conductivity

Bjj/Oa—12 to 30 inches; stratified silt to muck, moderately high saturated hydraulic conductivity

Cf—30 to 60 inches; permanently frozen silt, very low saturated hydraulic conductivity

### ***Minor Components***

38-Tundra tussock-scrub, silty plains and similar soils: 5 to 15 percent of the map unit

38-Tundra sedge, silty depressions and similar soils: 3 to 8 percent of the map unit

38-Boreal forest, silty plains and similar soils: 1 to 4 percent of the map unit

38-Boreal sedge, organic depressions and similar soils: 1 to 3 percent of the map unit

## **R38PLC—Yukon-Kuskokwim Coastal Plain, Tundra Plains**

*Elevation:* 46 to 492 feet

*Mean annual precipitation:* 18 to 21 inches

*Frost-free period:* 115 to 146 days

### **38-Water**

*Extent:* 25 to 40 percent of the map unit

*Landform:* lakes, rivers, streams

#### **38-Tundra dwarf scrub, organic plains and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material and/or grassy organic material over permanently frozen loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 10.1 inches

*Representative Profile:*

Oi—0 to 6 inches; peat, very high saturated hydraulic conductivity

Oe—6 to 31 inches; mucky peat, high saturated hydraulic conductivity

Cf—31 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

#### **38-Tundra sedge, organic depressions and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* thermokarst depressions on plains, swales on plains

*Slope shape:* concave

*Slope range:* 0 to 2 percent

*Parent material:* mossy organic material and/or grassy organic material over loess

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.8 inches

*Representative Profile:*

Oi—0 to 39 inches; peat, very high saturated hydraulic conductivity

A—39 to 49 inches; sandy loam, moderately high saturated hydraulic conductivity

Cg—49 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

38-Tundra scrub, silty plains and similar soils: 15 to 30 percent of the map unit

38-Tundra tussock-scrub, silty plains and similar soils: 5 to 15 percent of the map unit

38-Tundra sedge, silty depressions and similar soils: 2 to 5 percent of the map unit

38-Boreal forest, silty plains and similar soils: 2 to 4 percent of the map unit

### **R38UPB—Yukon-Kuskokwim Coastal Plain, Tundra Uplands**

*Elevation:* 46 to 640 feet

*Mean annual precipitation:* 17 to 22 inches

*Frost-free period:* 115 to 146 days

#### ***38-Boreal scrub, loamy eolian slopes and similar soils***

*Extent:* 20 to 30 percent of the map unit

*Landform:* terraces, hills

*Position on slope:* shoulders, footslopes, backslopes

*Slope shape:* linear

*Slope range:* 1 to 10 percent

*Parent material:* mossy organic material over coarse-loamy cryoturbate over permanently frozen coarse-loamy eolian deposits

*Depth to permafrost:* 30 to 51 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches

*Representative Profile:*

Oi—0 to 15 inches; peat, very high saturated hydraulic conductivity

A/Bw—15 to 28 inches; very fine sandy loam, high saturated hydraulic conductivity

Bjj—28 to 42 inches; very fine sandy loam, high saturated hydraulic conductivity

Cf—42 to 60 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

#### ***38-Tundra tussock-scrub, organic eolian slopes and similar soils***

*Extent:* 20 to 30 percent of the map unit

*Landform:* plains, mountains

*Position on slope:* toeslopes

*Slope shape:* convex

*Slope range:* 1 to 4 percent

*Parent material:* organic material over silty cryoturbate over permanently frozen loess

*Depth to permafrost:* 24 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches

*Representative Profile:*

Oi—0 to 24 inches; peat, very high saturated hydraulic conductivity

Cjj—24 to 31 inches; silt, moderately high saturated hydraulic conductivity

Cf—31 to 60 inches; permanently frozen silt, very low saturated hydraulic conductivity

**38-Boreal scrub, loamy colluvial slopes, Yukon-Kuskokwim Coastal Plain, and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* mountains, hills

*Position on slope:* shoulders, backslopes

*Slope shape:* linear

*Slope range:* 2 to 40 percent, north to north aspects

*Parent material:* loamy loess and/or loamy slope alluvium over gravelly colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* medium

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—39 inches

*Ponding:* none

*Available water capacity (approximate):* 8.6 inches

*Representative Profile:*

Oi—0 to 7 inches; slightly decomposed plant material, very high saturated hydraulic conductivity

A—7 to 12 inches; silt loam, high saturated hydraulic conductivity

Bw—12 to 18 inches; silt loam, high saturated hydraulic conductivity

2BC—18 to 28 inches; channery silt loam, high saturated hydraulic conductivity

2C—28 to 60 inches; very channery silt loam, high saturated hydraulic conductivity

**38-Tundra scrub, silty plains and similar soils**

*Extent:* 15 to 25 percent of the map unit

*Landform:* hills, plains

*Slope shape:* concave

*Slope range:* 1 to 3 percent

*Parent material:* coarse-silty cryoturbate over frozen loess

*Depth to permafrost:* 18 to 30 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—12 inches

*Ponding:* none

*Available water capacity (approximate):* 4.5 inches

*Representative Profile:*

Oi—0 to 3 inches; peat, very high saturated hydraulic conductivity

A—3 to 9 inches; silt, high saturated hydraulic conductivity

Bjj/Oa—9 to 24 inches; stratified silt to muck, moderately high saturated hydraulic conductivity

Cf—24 to 60 inches; permanently frozen silt, very low saturated hydraulic conductivity

**Minor Components**

38-Tundra sedge, organic depressions and similar soils: 1 to 5 percent of the map unit

38-Boreal forest, loamy drainages and similar soils: 2 to 5 percent of the map unit

38-Boreal scrub, gravelly flood plains and similar soils: 1 to 5 percent of the map unit

**R38WAA—Yukon-Kuskokwim Coastal Plain, Water**

***38-Water***

*Extent:* 0 to 100 percent of the map unit

*Landform:* lakes, rivers, streams

# Soil Properties

---

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

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

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

## Engineering Index Properties

Tables 7 and 8 give the engineering classifications and the range of index properties for the layers of each soil in the survey area.

In table 7, *depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the USDA. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

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

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches (75 mm) 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, SP-SM.

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 (75 mm) 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.

*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.

In table 8, *depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the USDA. 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.

*Rock fragments* larger than 10 inches (250 mm) in diameter and 3 to 10 inches (75 to 250 mm) 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 (75 mm) in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

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

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

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

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

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

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

## Physical Properties

Table 9 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.

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

*Saturated Hydraulic Conductivity ( $K_{sat}$ )* refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture.  $K_{sat}$  is considered in the design of soil drainage systems and septic tank absorption fields. A conversion guide from  $K_{sat}$  to Permeability rates is available in the Glossary.

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

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

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

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 9, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

*Erosion factors* are shown in table 9 as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the

higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

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

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

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. Soils are grouped according to the amount of stable aggregates more than 0.84 millimeter in size. Soils containing rock fragments can occur in any group. The groups are as follows:

1 to 9 percent dry soil aggregates. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

10 to 24 percent dry soil aggregates. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates with greater than 35 percent clay or greater than 5 percent calcium carbonate. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

40 to 44 percent dry soil aggregates. These soils are slightly erodible. Crops can be grown if measures to control wind erosion are used.

45 to 49 percent dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

50 percent or more dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

Stony, gravelly, or wet soils and other soils not subject to wind erosion.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 10 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

## Water Features

Table 11 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

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

*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.

Local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods is also considered. 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.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 11 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).

*Moisture status* indicates the water content in the soil at a specified depth. The *Status* is expressed as *wet*, *moist*, or *dry*. *Wet* refers to soil in which most of the pore space is filled with water and the water is retained at less than 0.00001 bar suction. *Moist* refers to soil in which some of the pore space is filled with water and the water is retained at between 0.00001 and 15 bar suction. *Dry* refers to soil with little to no water in the pore spaces. Any water is retained at greater than 15 bar suction, which is generally near or above the wilting point of common agricultural crops. *Temperature* is listed for each specified depth.

## Soil Features

Table 12 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 restricts roots or otherwise provides an unfavorable root environment. *Kind* indicates the type of layer, for example bedrock, cemented layers, dense layers, and frozen layers. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer. The table also indicates the *hardness* of the restrictive layer which significantly affects the ease of excavation.

*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. Potential for frost action is expressed as *low*, *moderate*, or *high*.

*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.

## Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in *Soil Taxonomy* (Soil Survey Staff, 1999) and *Keys to Soil Taxonomy* (Soil Survey Staff, 2006) and in the *Soil Survey Manual* (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in *Field Indicators of Hydric Soils in the United States* (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches (50 cm). This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Those soils that meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators, are listed in table 13. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

Some map units consist almost entirely of hydric soils, such as map unit R29FPE—Interior Alaska Lowlands, Tundra Flood Plains and Terraces (in which all listed components are hydric). Other map units consist primarily of nonhydric soils, such as map unit 30KA02—Kaviriuq silt loam, 3 to 8 percent slopes (in which all listed components are nonhydric), or map unit 30FP03—Cryofluvents-Haplocryepts complex, 0 to 3 percent slope (in which hydric soils are present only as minor components). Hydric soils may occur as minor inclusions even in map units listed without any hydric soils in table 13.

Table 13 also lists the local landform on which each soil occurs, the hydric criteria code, and whether or not each soil meets the saturation, flooding, or ponding criteria for hydric soils. Codes for hydric soil criteria are explained in the following key:

### Key To Hydric Soil Criteria

1. All Histels except Folistels and Histosols except Folists, or
2. Soils in Aquic suborders, subgroups, or subgroups, Albolls suborder, Historthels great group, Histoturbles great group, Pachic subgroups, or Cumulic subgroups that are:
  - a. somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
  - b. poorly drained or very poorly drained and have either:
    - i. water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in),  
or for other soils
    - ii. water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in,  
or
    - iii. water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in,  
or
3. Soils that are frequently ponded for a long duration or a very long duration during the growing season, or
4. Soils that are frequently flooded for a long duration or a very long duration during the growing season.

## Classification of the Soils

---

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 14 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 *spodosol*.

**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 *cryod* (*cry*, meaning cold, plus *od*, from *spodosol*).

**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 *haplocryod* (*haplo*, meaning low base saturation, plus *cryod*, the suborder of the spodosols that have a cryic temperature regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *typic* identifies the subgroup that typifies the great group. An example is *Typic Haplocryods*.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is *skeletal, mixed, superactive Typic Haplocryods*.

**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. An example from this survey area is the *Maquillug series*.

### Taxonomic Units and Their Morphology

The Official Series Descriptions (OSDs) provide the most current information about the series mapped in this survey area. These descriptions are available on the Web at <http://soils.usda.gov>.



## Formation of the Soils

---

This section describes soil forming processes as they occur across the landforms that make up the Western Interior Rivers Area, Alaska (WIR). This information is derived from five seasons (2001–2005) of work in the field and 1,851 described locations. Soil forming processes are reviewed in the context of the five soil forming factors as stated by Jenny (1941); climate, organisms, relief, parent material, and time. At approximately 9.7 million acres the survey area is vast and numerous papers could be written detailing soil formation at any given locale.

### Major Land Resource Areas

The survey area is divided by four distinct Major Land Resource Areas (MLRAs). Each MLRA is characterized, in part, by a combination of distinct climate, geology, landforms, and presumably, soil forming factors. The four MLRAs that divide the survey area are: the Yukon-Kuskokwim Coastal Plain; the Yukon-Kuskokwim Highlands; the Interior Alaska Lowlands; and the Ahklun Mountains (Figure 2). Each of the soil forming factors are discussed in relation to these MLRAs.



Early morning fog rolling off the Yukon-Kuskokwim Highlands on the Yukon River down river from Holy Cross, Alaska.

## Climate

Climate concerns the general precipitation and temperature conditions within which soils across the Western Interior Rivers Area develop. Broadly, the survey area has long cold winters and short mild to warm summers. Daylight hours range from around six in the middle of January to around nineteen in the middle of June. Conditions are variable across the survey area but are distributed recognizably across a gradient; coastal influence on the west and continental influence towards the east.

The Yukon-Kuskokwim Coastal Plain, a low relief series of organic rich, eolian, and alluvial plains, is affected by exposure to storms, winds, and moderating temperatures projected from the Bering Sea. The geologically variable Yukon-Kuskokwim Highlands, the mountains and hills that run through the center and on the northwest edge of the survey area, is affected by continental climate conditions. These are characterized by cold air drainage and stable winter conditions much like that of interior Alaska. The Interior Alaska Lowlands, nearly level to rolling lowlands along the Holitna River east of the Kuskokwim Mountains and at the interfluvium between the Yukon and Innoko Rivers, are also affected by continental climate conditions. In these lowlands, however, the geography and arrangement of mountain and hill slopes create a different derivative of those continental climatic conditions than in the adjacent highlands.

### General Climate Effects

Geomorphic and pedogenic processes related to cold climate conditions include frost cracking, frost churning, sorting, and solifluction. These are evident in the broken fractured rock at exposed positions, the shape and complex slope of some hillsides, and the scattered appearance of patterned ground. Mitigating or enhancing the cryopedogenic processes operating in the survey area are the timing and duration of snow cover, the effectiveness of rainfall, and the intensity and the frequency of freeze-thaw cycles. The transition from winter to spring climate affects the pattern and timing of river ice breakup, resulting in occasionally serious flooding that causes extensive ice gouging and erosion of riverbanks.

The ground surface across the survey area begins to freeze sometime around mid to late October. In most areas freezing conditions extend deeper than 4 feet (1 m) and last until late April or early May. Depth of freeze is partly influenced by extent and timing of snow cover, nature of the organic surface, the texture of the soil parent material, and the moisture content of the soil. Thaw is complete by mid to late June but some sites may resist thawing into July. There is little apparent relation to wetness, both drier and wetter sites are often frozen late. In areas with permafrost, the soil never thaws beyond a certain depth. Late September is the time when the deepest thaw to permafrost occurs in the survey area. Generally the depth of thaw is between 25 to 37 inches (65 and 95 cm) with the median depth around 29 to 31 inches (75 to 80 cm). The thaw depth can be related to organic surface quality. Snowfall is moderate and subject to redistribution by strong winter winds. Extensive early Bering Sea ice cover can mean interior-like cold and dry conditions for the western side of the survey area. Later and/or less extensive ice cover moderates winter temperatures by allowing the maritime effects of the Bering Sea to influence the soils.

Melting of the snow pack can occur over just a few days sending floods down hillslopes, through swales, and over footslopes. Springtime elevated water tables are common but generally transient on upslope positions. Saturated, reduced conditions on the hillslopes are not common except in drainageways and depressions.

Summers can be warm. The relative downstream location of the survey area can result in significant flooding throughout the summer months from distant Interior thunderstorms. Periods of rain and cloud cover are common as the summer progresses into August and September.

Climate is the fundamental determinant of the occurrence of permafrost. The survey area occurs in the zone of discontinuous permafrost. Permafrost distribution is patchy and in places permafrost depth is quite shallow. Permafrost occurrence is uncommon in most of the mountains and hills. The notable exception to this is the region around Crooked Creek in the center of the survey area. Permafrost is common on the footslopes in the center of the Yukon-Kuskokwim Highlands, to the north and northwest of Crooked Creek, and is related to the presence of the fine textured loess covering those slopes. This area and the area to the east are susceptible to permafrost degradation by the effects of fire disturbance and subsequent landform erosion. Very few locales with coarse textured or gravelly materials have permafrost. Permafrost is relatively common in loess deposits on the western foothills of the Kuskokwim Mountains and in the fine materials and organic deposits of the Yukon-Kuskokwim Coastal Plain. In these areas, the fine-grained materials of silty loess and silty alluvium support the retention of permafrost. Thick organic mats also help maintain permafrost along with slope aspect. Sandy soils that are permanently frozen do occur in some colder locations. These sandy soils mainly occur on cliff dunes above the Kuskokwim River.

In general, permafrost in the survey area is very susceptible to degradation with even a small amount of climate warming. Many local people particularly along the Yukon River perceive a decrease in the amount of area affected by permafrost. In the Holitna River drainage, the fine-textured soils, thick organic mats, north aspects, and soil morphology often associated with permafrost were found on permafrost-free sites across all landforms. Based on the observation of customary soil and vegetative indicators in the Holitna River drainage, it was expected that more permafrost should have been present.

### Climate and patterned ground

The presence of patterned ground highlights the cold-dominated nature of the soil forming climate in the survey area. Palsas, polygons, and earth hummocks occur on the Yukon-Kuskokwim Coastal Plain and in the Interior Alaska Lowlands. Stripes and earth hummocks occur in the Yukon-Kuskokwim Highlands. In a few Highland areas, environmental change is evidenced by relict polygon features now overgrown with forest vegetation. Figures 3A, 3B, and 3C show some of the patterned ground forms that occur in the survey area. The processes that lead to patterned ground not only influence the soil properties but have a major effect on the establishment of the plant community by creating micro-climates in the alternating low and high ground features.



**Figure 3A.** Small sorted stripes.



**Figure 3B.** Palsa.



**Figure 3C.** Polygons.

## **Climate and vegetation**

Climate has a major affect on the distribution of vegetation across the survey area. Cold temperatures and wind limit forest cover on hills and mountain slopes to an elevation that is generally less than about 1,000 feet (300 m). These forests mainly consist of paper birch (*Betula Paperifera*), white spruce (*Picea Glauca*), and quaking aspen (*Populus tremuloides*). Above 984 feet (300 m) in elevation, scrub associations dominate. They are mixed at lower positions, with scattered white spruce and birch tress, and then become increasingly graminoid in content and eventually more dwarf at the highest elevations complexing with mosses, lichens, and alpine plants. On lower footslopes and terraces, tree canopy cover of less than 25 percent can often indicate the occurrence of black spruce (*Picea maritime*) woodland stands. An exception to this is where white spruce occurs as the woodland tree mixed in tall alder on large alluvial fans and mountain aprons in the central and south Yukon-Kuskokwim Highlands. The largest white spruce observed occurred on stream terraces in the Holokuk Valley. It is

difficult to tie black spruce to wet or dry conditions unless stunted growth is apparent. To the west, within the Yukon-Kuskokwim Coastal Plain, the Kuskokwim and Yukon River floodplains support dense forests in contrast to the surrounding tundra plains and uplands. Extensive felling of white spruce to burn as fuel for steamships in the latter part of the 1800s dramatically changed the nature of the forest along both the Yukon and Kuskokwim Rivers from spruce dominated to birch dominated communities.

## Parent Material

The distribution of parent materials in the survey area is related to geologic processes that build mountains, carve river valleys, blow glacial silt, and redistribute all materials in response to gravity. In the survey area, parent material determines the major physical properties of a soil. Sandy parent materials produce soils with sandy textures that usually drain quickly and are nutrient poor. Fine textured silty loess develops into soil with slow permeability and that is very susceptible to erosion. Gravelly colluvium warms faster and deeper than fine textured material. Alluvium is highly variable with sandy, silty, and loamy material. Mountain slopes higher than about 1,000 feet (300 m) in the survey area are generally covered by gravelly and channery colluvium or residuum formed from greywacke and shale. Igneous intrusives occur in the Horn, Russian, Chuilnuk, and Taylor Mountains. These areas are also the location of glacially derived materials that include concentrations of sand and gravel as well as stony and cobbly till. In most of the mountainous regions below about 1,000 feet (300 m) and particularly in areas close to major rivers, silty loess and coarse-loamy eolian deposits blanket hillsides and terraces. Hills are often covered in loess except for steeper hillsides where loess has eroded and colluvium dominates. Loamy and sandy alluvium dominate in the Kuskokwim River valley east of the Kuskokwim gorge, while silty and sandy alluvium dominate to the west of the Kuskokwim gorge on the Yukon-Kuskokwim Coastal plain. To the south of the Kuskokwim River and to the east of the Holitna River, near their confluence, a Pleistocene sand sheet provides the source material for the sandy terraces in the Kuskokwim River gorge and the cliff dunes that occur on backslopes near the river. The development of the Kuskokwim gorge by downcutting of the Kuskokwim River has, in a few places, left gravelly alluvium on local low-elevation summits

In the Kulukbuk Hills, where the loess mantle is thin, acidification and podzolization are inhibited by limestone bedrock. This also occurs on the steep slopes where colluvium is base-rich. Mollic epipedons are formed and Mollisols occur on subalpine summits and shoulders and on steep backslopes.

Apart from the Ahklun Mountains, and the isolated Horn, Russian, and Taylor Mountains, recent glaciation has not left much evidence. Till left by Alaska Range glaciers can be found close to the surface in the southeast and far south central portions of the survey area.

Organic matter derived from plants is another important parent material in the survey area. Large areas of very wet organic material form extensive plains along the Holitna River.

## Organisms

Plants are one type of organism that influences soil formation. In the survey area plant associations can be identified and correlated to particular soil components. The relationships between soil formation and the overlying vegetative communities are complex. Fire disturbance is common in the northeast portion of the survey area and is largely responsible for the pattern of vegetation observed on the hills there.

Plants affect soil development by addition of leaf litter; addition of woody debris in the form of boles, branches, and roots; and formation of organic acids from root

exudates. Spruce tree litter can promote podzolization and the development of Spodosols. Lichens release organic acids and promote development of dark surface horizons. Intensive leaf fall from willows, alders, and other scrubs can promote organic matter accumulation. Surface organic matter accumulation promotes cooling of the soils and can result in the eventual development of permafrost.

In areas with less fire disturbance, the amount of organic matter accumulation is generally governed by soil wetness. When wet, cold conditions retard decomposition accumulation of organic matter can become significant. In areas of regional near-surface groundwater tables, mossy and sedge derived organics occur in extensive wet depressions or terraces. These organic matter accumulations can promote permafrost formation via their cooling effect on the soil, if groundwater is not providing warmth from below.

## **Relief (interacting with parent material, organisms, and time)**

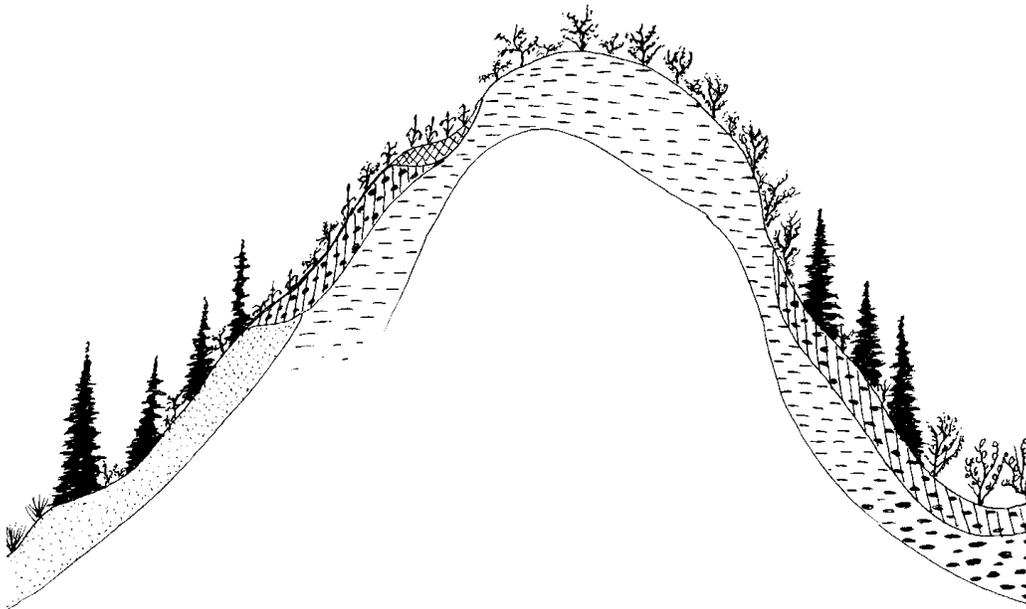
The influence of relief on soil formation has a complex inter-relationship with other soil-forming factors. The discussion that follows presents information on relief as it interacts with parent material, organisms, and time.

### **Hills and mountains**

The importance of slope shape and aspect is apparent at any elevation and with any parent material. Convexity, concavity, and the quantity and quality of upslope area significantly influence development of the soil at a site.

#### **Soil formation on hill and mountain summits and shoulders.**

In the survey area, landform positions identified as summits and shoulders occur at all elevations. The common site property is convexity and small upslope area. On the hills and mountain landscapes summits, shoulders, and ridges can be visually differentiated by the vegetative communities that occur on them. There are summits, shoulders, and ridges that support alpine, subalpine, and boreal plant associations and there are soil taxonomies such as Cryorthents, Dystricrypts, and Haplocryods, that occur under the range of plant communities. These positions in general are relatively dry and dominated by lateral subsurface water movement. They potentially gain more solar insulation to drive pedogenic processes. Above 820 feet (250 m), loess is thin or nonexistent and soils on convex positions form primarily in fractured residuum and colluvium (Figure 4). Loamy-skeletal particle size classes dominate (Figure 5). Some of the soil components that are found here are *Alpine dwarf scrub*, *gravelly residual slopes*, and *Subalpine scrub gravelly colluvial slopes*. Physical weathering, soil creep, braunification, and humification are dominant processes. Below 820 feet (250 m) elevation, loess increases in thickness with decreasing elevation. It is common on lower summits especially in positions near the rivers (Figure 6). Soil components like *Boreal forest loamy eolian slopes* are often productive, associated with dense forests and thick scrubby and grassy understories. Acidification produces low base saturation in the upper solum and podzolization promotes formation of albic and spodic horizons. Formation of cambic horizons by braunification also occurs. At sub-alpine elevations, generally between about 1,000 and 1,500 feet (325 and 450 m) upper backslopes and low shoulder positions support grassy alder communities. Organic matter retention in the surface can be fairly high with resultant thick dark surfaces. These can be thick and dark enough to meet the criteria for Umbric epipedons (Figure 7).



**Figure 4.** Convex mountain position with the *Alpine scrub, gravelly residual slopes* component at the summit. Residuum and colluvium are the summit parent materials.



**Figure 5.** Gravelly residuum at a high elevation summit shoulder position.



**Figure 6.** Convex position below low elevation hilltop with the *Boreal forest loamy eolian slopes* component. Loess is the summit parent material.



**Figure 7.** Colluvial Dystrocryept on a shoulder position under a subalpine alder/grass community.

Wide summits that have little slope retain much of the precipitation that falls and the soils there can exhibit characteristics of wet soils. In contrast to the skeletal Dystrocrypts that conventionally occupy summits, coarse-loamy Aquepts and Gelisols appear on wider summits and shoulders vegetated with the same alpine scrub community (Figures 8 and 9). There are both Histic and Typic Cryaquepts, and Histic and Aquic Orthels and Turbels. These Gelisols and Cryaquepts are often intermingled. Patterned ground is common on these positions with Histoturbels on the micro-high positions and Typic Cryaquepts on the micro-low positions. The most important pedogenic processes at work on wide, low-slope summits under alpine scrub vegetation are organic matter accumulation, humification, hydromorphism, and gelification. Many of the Aquepts show signs of relict cryoturbation and permafrost. Many of the Aquepts and the Gelisols also have layers of charcoal, indicating previous fire disturbance.

### Soil formation on higher elevation linear backslopes.

Linear backslopes at high elevations consist of colluvial surfaces made of fractured and translocated rock. Progressing downslope, sufficient fine soil material accumulates to form loamy particle-size classes, often overlying coarser skeletal classes. Below about 800 feet (250 m) elevation a thin loess mantle develops, underlain by colluvial and residual cobbles or channers. An example of a soil taxonomy that spans the range of forest, subalpine, and alpine plant communities on linear slopes are Dystrocrypts. The surface layer is usually 2 to 4 inches (5 to 10 cm) of slightly decomposed plant materials underlain by an albic and cambic sequence in the thin loess mantle. The cambic horizon may extend into the underlying cobbly material. The pedogenic processes driving the development of these soils are colluviation, eluviation, and braunification. Acidification is occurring as evidenced by increasing pH values at lower depths below the organic surface. Another important process is pedoturbation, which aids in physical weathering by mixing and exposing material to the surface.



**Figure 8.** Shovel in a Cryaquepts soil on the wide summit of a loess covered hill near the Innoko River.



**Figure 9.** Soil is part of a complex that also contains Gelisols, (Typic Aquiturbel) and occurs under an alpine scrub community.

### Soil formation on forested lower elevation hillslopes.

#### *Paper birch forest and paper birch alder swales hillslopes.*

The *Paper birch forest* and *Paper birch alder swales* communities are examples of plant groupings that can be reasonably well correlated to soil components at alternating landform positions. The backslopes of the hills adjacent to the Yukon and Kuskokwim Rivers are often composed of alternating convex nose slopes, linear backslopes, and concave swales that run parallel to the slope of the hill. The nose slopes and backslopes are generally underlain by over 7 feet (2 m) of coarse-loamy eolian material or silty loess with eluviation and podzolization in the upper 20 to 39 inches (50 to 100 cm) (Figure 10). Podzolization is less dominant on backslope positions. The swales are filled with retransported coarse loamy materials that often have 5 or 10 percent coarse fragments in one or more horizons (Figure 11). They lack podzolization, and due to the concave shape of the swales, the soils tend to retain more moisture and generally have redoximorphic depletions in the upper 30 inches (75 cm) of the profile. A general model for soil components on these landform positions would be: nose slopes—Typic Haplocryods (high podzolization); backslopes—Typic Haplocryepts (less intense acidification); and swales—Aquic Dystrocryepts (some hydromorphism). The swales support the *Paper birch/alder* communities and the nose slopes and backslopes support *Paper birch forest* communities.



**Figure 10.** Bisecting Typic Haplocryod formed in loess under Paper Birch forest community.

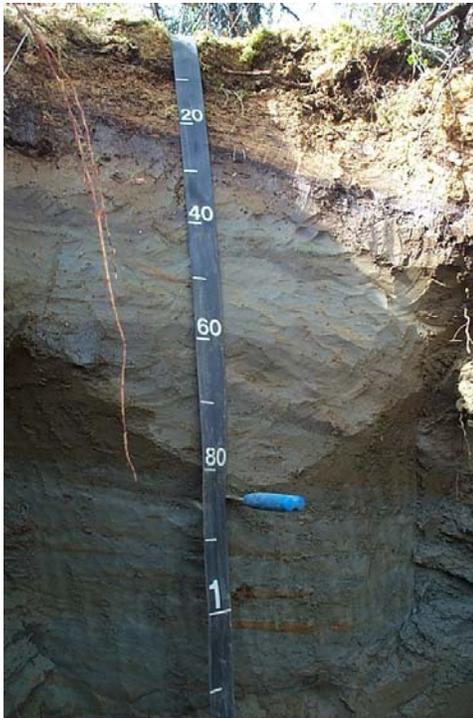


**Figure 11.** Aquic Dystrocryepts composed of coarse-loamy slope alluvium under a Paper Birch/alder swale community

***Poorly drained black spruce hillslopes and well drained black spruce hillslopes.***

The black spruce forest community can be separated into two communities. The first of these has a greater presence of *Sphagnum* spp. mosses and poorly and very poorly drained soils (Figure 12). The second has a relatively lower presence of *Sphagnum* spp. and moderately well and well drained soils (Figure 13). The soils associated with these two communities can be differentiated by pedogenic processes, but are more difficult to differentiate by landform position. Generally, the poorly drained black spruce communities and associated soils are located on lower backslope, footslope, and toe slope positions. The well drained black spruce communities and soils are located on middle backslopes, low shoulder, and summit positions. There is substantial overlap in the data collected, however, and the more poorly drained sites have been found higher up the hillslopes and the more well drained sites exist on footslope and toe slope positions. One might expect the more poorly drained sites to exist on positions with concave slope shapes and the well drained sites to exist on convex slope shapes. However, the data collected does not support a strong relationship between drainage and slope shape for the soils of these communities. Fire probably plays an important role in the presence of these communities.

The major soils of the wet communities are coarse-loamy Typic Histoturbels and similar permafrost soils, as well as coarse-loamy Typic and Histic Cryaquepts. The Histoturbels are often found on footslopes and toe slopes that are susceptible to hill shade from surrounding landforms (Figure 6). Presumably the cooler soil temperatures of such sites drive higher rates of organic matter accumulation, which can lead to gelification. On the edges of black spruce communities underlain by Typic Histoturbels are often soils with slightly warmer temperatures and no permafrost throughout their



**Figure 12.** Typic Histoturbel on a north-facing toe slope under black spruce.



**Figure 13.** Aquic Haplocryod showing charcoal in the upper 4 inches (10 cm) under black spruce.

profiles, even though the plant community and organic layer thickness may be comparable to those of the permafrost soils. These areas generally support the Histic and Typic Cryaquepts, for which organic accumulation and hydromorphism are the dominant processes in soil development. These Cryaquepts occur under black spruce communities on some of the most northerly aspects of the first set of hills adjacent to the Yukon and Kuskokwim Rivers, where permafrost is rarely encountered. The hills adjacent to the river seem to have a slightly warmer micro-climate, evidenced by the fact that the leaves of the deciduous trees yellowed earlier in the year on hills further away from the rivers.

The soils associated with the well drained black spruce communities differ from the soils of the poorly drained black spruce sites in that they have lower rates of organic matter accumulation. The dominant pedogenic process is braunification and the major soils are loamy-skeletal and colluvial Aquic and Typic Dystricrypts. Many of the sites with higher coarse fragment content are found at higher elevations in the subalpine zones of mountain sides.

***Slide alder community and low elevation, skeletal Typic Dystricrypts.***

This community occupies a very distinct landform and position. Wherever the major rivers are immediately adjacent to a hillslope, there is a steep toe slope that is often pocked by rock outcrops. This position is a rocky, erosional slope that has been undercut by the river at different times throughout its history. The taxonomies on these slopes are loamy-skeletal Typic Dystricrypts and Typic Cryorthents.

**Concave positions and depressions in hills**

**Soils of hill drainageways and closed depressions.**

***Drainageway willow communities and Aquepts, Aquents, and Histosols.***

The plant communities associated with the drainageways of the hills adjacent to the Yukon and Kuskokwim Rivers are associated with different landform positions. Willow scrub communities occupy gently sloping, narrow drainageways and valley bottoms on footslopes and toe slopes. The Alaska bog willow scrub communities are located on broader, nearly level drainageways on toe slopes, and also on the alluvial flats the toe slopes grade into. The processes driving soil development in these drainageways are the same; gleization and organic matter accumulation, but they are of differing levels of importance in the development of soils in the two types of drainageways.

The narrow, gently sloping drainageways with willow scrub communities support very poorly drained and poorly drained Typic Cryaquepts and Histic Cryaquepts. The slopes are great enough that the soils are prone to periodic deposition and erosion from local surface runoff. The profiles often consist of stratified silts, fine sands, and organic materials. The mineral material is generally gleyed within 20 inches (50 cm). Gleization is more influential in soil development than is organic matter accumulation.

The nearly level slopes of the broader drainageways that support the Alaska bog willow scrub community allow for greater organic matter accumulation. The soils have thicker organic surface horizons. The major soils are Histic Cryaquepts and Terric and Typic Histosols.

### ***Hill sedge meadow community and Histosols.***

Low elevation, undulating footslopes and toe slopes are often marked by alternating drainageway and interfluvial positions (Figure 14). The interfluvial positions often have depressions distributed across them. The closed depressions are both sediment and nutrient collection zones. Therefore, the dominant pedogenic processes tend towards humification and acidification. The depressions are also water catchment zones and tend to have higher water tables, making inundation, hydromorphism, and gleization important processes. The soils in these depressions are ponded Typic and Terric Histosols.

## **Floodplains and Terraces**

### **Sources and concepts**

Péwé (1948) classified geomorphic development of the Yukon River floodplain near Galena into four phases. Distinct surfaces were separated by differences in surficial drainage pattern, general vegetation, and the depth to permafrost. The units are: I—Linear, II—Advanced Linear, III—Coalescent, and IV—Scalloped. Phase I consists of the youngest floodplain surfaces, with drainage, lakes, vegetation pattern, and sediment deposits running parallel to the river's current course. Permafrost is generally not present and vegetation ranges from willow scrub to tall deciduous forest. Phases II and III are steps along the continuum, which include succession through coniferous forests, coalescing drainage patterns, and increasing paludization, leading at the far end to permafrost occurrence and the formation of organic-rich depressions and plains. Phase IV consists of the oldest floodplain surfaces upon which other non-alluvial deposition is common. These surfaces are characterized by irregularly shaped "scalloped" lakes, a permafrost table in some places, sedge and wet scrub vegetation, and stunted coniferous forest.



**Figure 14.** Alternating nearly level footslope drainageways and interfluvial positions. Soils in the drainageways are Histic Cryaquepts and Histosols. These occur alongside black spruce forests with Typic Cryaquepts and also closed depressions with Histosols.

Drury (1956) applied Péwé's scheme to the floodplain of the upper Kuskokwim River, an area adjacent to the survey area. Drury enhanced the understanding of the succession of vegetation communities in relation to the geomorphic development of the floodplain landforms and their assigned phases. There are some differences in parent material and climate (less permafrost) that make small adjustments in the species makeup and in the effects and extent of permafrost. Péwé's phase classification system has been very useful as a way to conceptualize soil map units that include soil components at similar stages in pedogenic and geomorphic development or that are functionally related. Drury's concepts of vegetation community succession have been useful in the identification of plant communities of the Yukon and Kuskokwim River floodplains within the survey area.

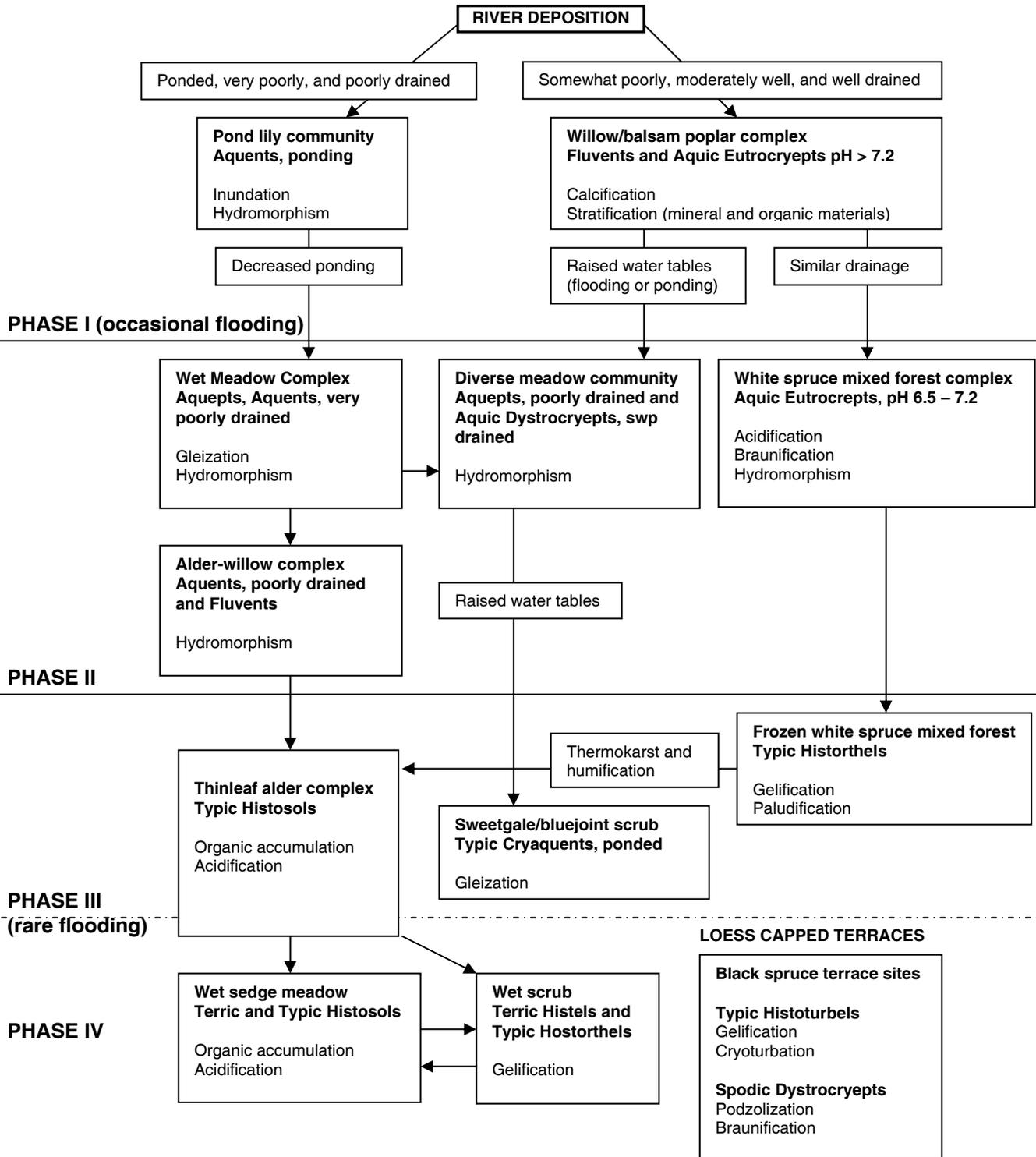
The discussion that follows explains the nature of soil components affected by alluvial processes. Floodplains and associated terraces are nearly level to undulating deposits of alluvial sediments found at any elevation. They can be gravelly and braided with a few scattered scrubs or they can be deep fine silt supporting dense white spruce forest. They share the processes of inundation, deposition, and erosion. Their different properties are related to parent material, elevation, and vegetation. Time is dependant on the nature of the stream. The Yukon for example has left a wavering track, cutting off previous landforms, exposing the pattern of growth and retreat, resetting the clock on vegetation and soil component development (Figure 15).

The wide floodplains of the Kuskokwim and Yukon Rivers in the survey area exhibit all of the characteristics of Péwé's Phase I, II, and III. The accompanying diagram (Figure 16) is an attempt at correlation of soil components and pedogenic processes to the current concepts of the succession of floodplain vegetation communities identified in the survey area. This table was not created under the assumption that pedogenesis directly follows and responds to vegetation community succession. It merely shows some of the pathways through which pedogenesis and succession might be associated to one another or occur in conjunction with one another.



**Figure 15.** Pattern of vegetation on the Yukon River revealed by reorientation of the direction of river flow. Lower vegetation is Alaska willow (*Salix alaxensis*) and the taller are Cottonwood (*Populus balsamifera*) representing two distinct ages of formation. As the Cottonwood mature, white spruce (*Picea Glauca*) begins to appear and flooding frequency changes from frequent to occasional.

**Figure 16 - Pedogenic Processes of Soils Associated with Vegetation Communities of Yukon and Kuskokwim River Alluvial Landforms**  
Adapted from Drury 1956



\*River Erosion can move all phases back to Phase I.

## Phase I—Fluents and Aquepts

The geomorphic components included in this phase are the youngest alluvial deposits on the floodplain. Examples of map units associated with this phase are D38FPE and D29FPE (Figure 17, 18, and 19). They include gravel and sand bars that have very young willow and poplar scrub communities. All the soil components associated with the map units developed for this phase are texturally stratified and have organic materials stratified throughout the profile as well. They are within zones of active deposition and erosion and are considered to flood frequently or occasionally. The water table is generally high enough in these soils to classify them in the Aquic subgroup of the Cryofluents class. These Cryofluents occasionally have pH values greater than 7.2 and are slightly effervescent. Soils with a higher water table than the Aquic Cryofluents classify as Typic Cryaquepts. These soils are generally found in relic and current channels and drainageways on the floodplain deposits. The Typic Cryaquepts are associated with the *Wet meadow complex* vegetation community and are ponded at some time in most years.

## Phase II—Haplocryepts and Aquepts

The geomorphic components of this phase of the floodplain are very similar to those included in Phase I. The map units associated with this phase and Phase III are D29FPA, D38FPA, and D29FPB (Figure 20, and 21). The geomorphic surfaces are still within zones susceptible to deposition and erosion and are considered to flood occasionally. Textural and organic material stratification are still present in the profiles. In terms of pedogenesis, however, the soils are slightly more developed. The carbonates present in the Fluents of Phase I have leached out of the profile at this stage of development and the soils tend to have pH values between 6.5 and 7.2. Cambic horizons have begun to develop and are evidenced either by a browning of the matrix, or by a fluctuating water table in conjunction with low chroma matrix colors and high chroma redoximorphic concentrations.

Depending on the depth to the water table, the soils in Phase II are either Aquic Eutrocryepts or Typic Cryaquepts. The Aquic Eutrocryepts are associated with the *White spruce mixed forest complex*. The Typic Cryaquepts are associated with the *Wet meadow complex* if ponded, and the *Diverse meadow complex* if they are better drained.

## Phase III—Aquepts, Turbels, Histels, and Histosols

In a late and very coalescent stage of floodplain development, organic matter accumulation and gelification begin to play a greater role in pedogenesis. Examples of map units associated with this phase are D29FPB, and D38FPD (Figure 22). The geomorphic surfaces associated with this phase are enough removed from zones of active deposition and erosion to be considered rarely flooded. The soil profiles still exhibit textural and organic matter stratification. In many cases the stratification is found lower in the profile under layers of organic materials that have undergone humification.



**Figure 17.** Phase I sandbar with three stages of Willow/Balsam Poplar succession.



**Figure 18.** Cottonwood-Willow community on early floodplain landform.



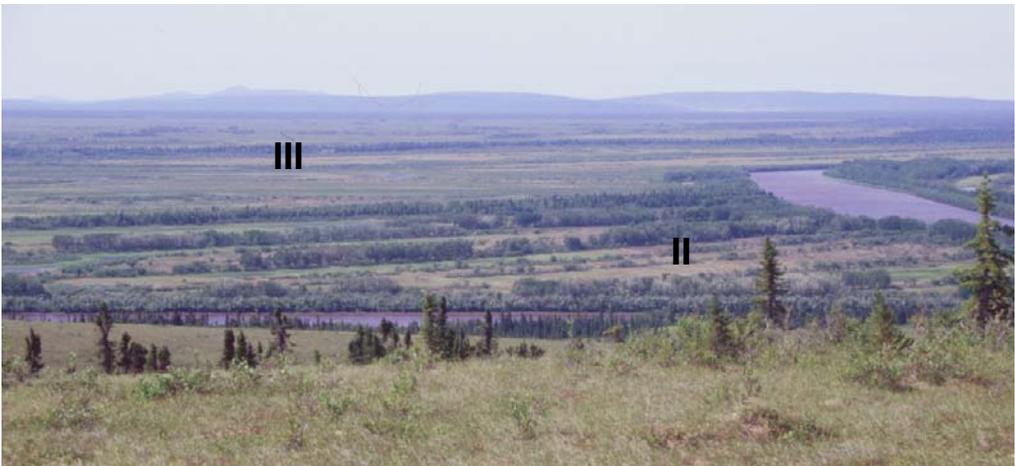
**Figure 19.** Mature Phase 1 vegetation, Balsam Poplar, tall alder along the Innoko River.



**Figure 20.** Phase II floodplain complex.



**Figure 21.** Map unit D38FPC grading to D38FPA.



**Figure 22.** Phase II grading to Phase III on Innoko River.

The map unit R38PLA, *Yukon-Kuskokwim Coastal Plains, Boreal Plains* is an example of a late stage of this phase. The vegetation consists of some pockets of *White spruce mixed forest complex* communities. This would be considered a Phase II vegetation floodplain complex; however, in this instance the soils associated with the vegetation complex have higher water tables and are generally Typic Cryaquepts instead of Aquic Eutrocryepts. Péwé (1948) would explain the decrease in the depth to the water tables as a result of the integration and coalescence of the drainage patterns in this phase of floodplain development. The slightly better drained landform positions adjacent to these Typic Cryaquepts are Typic Histoturbels under *Frozen white spruce mixed forest* communities. Theoretically, this is the first appearance of permafrost in the development of the floodplain landforms. Along the margins of these permafrost soils are often Terric and Typic Histosols that are under the *Thinleaf alder complex* of vegetation communities. These are very poorly drained soils in which rapid organic matter accumulation is occurring. Presumably, they can develop from the Typic Cryaquepts with an increase in aquic conditions, or from thermokarsted and/or thawed Typic Histoturbels.

The soils associated with the later stage of landform development are Histic and Typic Cryaquepts, Terric and Typic Histels, and Terric and Typic Histosols. In the late stage of Phase III, organic matter accumulation occurs on both permafrost and non-permafrost soils. Higher water tables result from continued coalescence and integration of surface drainage patterns. Finally, the forest community complexes still present in the early stages of this landform development have been replaced by scrub communities. Paludization dominates in areas away from the river.

#### **Phase IV—Terrace Soils in Loess and Coarse-loamy Alluvium**

All of the geomorphic surfaces in Phase IV are considered to be terraces that are outside of the present zone of fluvial erosion and deposition. Examples of map units associated with this phase are D29TEC, R29FPE, and R38PLA. The flooding for these geomorphic surfaces is considered to be rare to none. Many of these surfaces are capped by a mantle of loess and therefore do not show the alluvial textural stratification evidenced in the soils of the first three phases (Figure 23). There are several groups of soils found in this phase. Terric and Typic Histosols generally exist under the *Wet sedge meadow* community. They are mapped in complexes with Histels, Histoturbels, and Aquic Haplocryods. Each of these three components is associated with the black spruce community. They can obviously be differentiated from one another by soil drainage and the presence or absence of permafrost. Because these are older alluvial landforms that often have several feet of loess coating the surface, there are also locations where complexes of more well drained soils have been mapped. For example, the R38PLB map unit is a complex or association of a coarse-loamy Aquic Dystrocryepts component and a sandy or sandy-skeletal Aquic Dystrocryepts component. Both components are associated with the black spruce community. The similar map unit R29PLB is mapped on terraces composed of sandy sediments from a Pleistocene-aged sand sheet under a coarse-loamy loess mantle of varying thickness.



Figure 23. Phase IV loess escarpment leading to a well drained loess plain on the Yukon-Kuskokwim Delta.

## References

---

American Association of State Highway and Transportation Officials (AASHTO). 2000. Standard Specifications for Transportation Materials and Methods of Sampling and Testing. 20th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 2001. Standard classification of soils for engineering purposes. ASTM Standard D 2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Drury, W.H. 1941. Bog Flats and Physiographic Processes in the Upper Kuskokwim River Region, Alaska. The Gray Herbarium of Harvard University. Cambridge, Mass., USA.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February 24, 1995. Hydric soils of the United States.

Jenny, Hans. 1941. Factors of Soil Formation. McGraw-Hill, New York, N.Y., 281 pp.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 4.0, 1998. Field Indicators of Hydric Soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and Boundaries.

Péwé, T.L. 1948. Terrain and Permafrost of the Galena Air Base, Galena, Alaska. U.S.G.S. Permafrost Progress Report No. 7.

Soil Survey Division Staff. 1993. Soil Survey Manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 2006. Keys to Soil Taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil Taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Tiner, R. W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. 1996. Soil survey laboratory methods manual. Soil Survey Investigations Report 42.

# Glossary

---

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Aspect.** The direction in which a slope faces.

**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.

**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.

**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.

**Boulders.** Rock fragments larger than 2 feet (61 cm) in diameter.

**Braunification.** Release of iron from primary mineral particles and dispersion of particles of iron oxide giving the soil horized brownish color.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Calcification.** Processes that lead to the accumulation of calcium carbonate in a soil horizon.

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- 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 cm) along the longest axis. A single piece is called a channer.
- 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.
- 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 cm) 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 cm) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- 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."
- 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 (25 cm) and 40 or 80 inches (102 or 203 cm).
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cryoturbation (frost churning).** The mixing of the soil resulting in irregular or broken horizons, organic matter accumulation on the permafrost table, and oriented rock fragments due to frost action.
- Decomposition.** The breakdown of mineral and organic materials.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches (152 cm) deep over bedrock; deep soils, 40 to 60 inches (102 to 152 cm); moderately deep, 20 to 40 inches (51 to 102 cm); shallow, 10 to 20 inches (25 to 51 cm); and very shallow, less than 10 inches (25 cm).
- 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.

**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.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**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 cm) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (305 m) and fringes a mountain range or high-plateau escarpment.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Gelification.** Production of ice related structure and properties.

**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.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

- Gleization.** Reduction of iron under anaerobic conditions, production of gley matrix colors.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 mm to 7.6 cm) 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 cm) in diameter.
- Ground ice.** Term used to denote bodies of more or less clear ice in permanently frozen ground. Ground ice may occur as segregated ice, disseminated ice, and massive ice.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- 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.
- Hill.** A natural elevation of the land surface, rising as much as 1,000 feet (305 m) above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.
- Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:
- O horizon*—An organic layer of fresh and decaying plant residue.
- A horizon*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
- E horizon*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
- B horizon*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
- C horizon*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
- Cr horizon*—Soft, consolidated bedrock beneath the soil.

*R layer*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humification.** The transformation of raw organic material into humus.

**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.

**Hydromorphism.** Changes in physical and chemical properties as a result of saturation and desaturation.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state.

Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**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

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Karst (topography).** The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**K<sub>sat</sub>**. Saturated hydraulic conductivity. 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." The conversion of K<sub>sat</sub> rates to "permeability" rates is shown below:

Permeability	Saturated Hydraulic Conductivity	K <sub>sat</sub> Class
in/hr	in/hr	
< 0.0015	< .001417	Very Low
0.06	.01417	Low
0.2	.1417	Mod. Low
0.6	1.417	Mod. High
2.0		
6.0	14.17	High
20.0	≥ 14.17	Very High
100		

**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  $\frac{1}{3}$ - or  $\frac{1}{10}$ -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.

**Littering.** The accumulation on the mineral soil surface of organic litter and associated humus.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**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. Nearly all such rocks are crystalline.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Mineralization.** Release of oxide solids through decomposition of organic matter.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**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 in); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 in); and *coarse*, more than 15 millimeters (about 0.6 in).

**Mountain.** A natural elevation of the land surface, rising more than 1,000 feet (305 m) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition.

**Paludization.** Accumulation of deep deposits of organic matter as in mucks or peats.

**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.)

**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 m to 10 square m), depending on the variability of the soil.

**Pedoturbation.** Biologic, physical (freeze thaw, wet/dry cycles), churning and cycling of soil materials, thereby homogenizing the solum in varying degrees.

**Percolation.** The movement of water through the soil.

**Permafrost.** Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for two or more years.

**Permeability.** See  $K_{\text{sat}}$  (Saturated hydraulic conductivity).

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Podzolization.** Chemical migration of aluminum and iron and/or organic matter, resulting in the concentration of silica in the layer eluviated.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Riverwash.** Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**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.

**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.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level .....0 to 2 percent  
Gently sloping .....2 to 4 percent

Moderately sloping .....	4 to 8 percent
Strongly sloping.....	8 to 15 percent
Moderately steep.....	15 to 25 percent
Steep.....	25 to 45 percent
Very steep .....	More than 45 percent

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand.....	1.0 to 0.5
Medium sand.....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 cm) in diameter if rounded or 15 to 24 inches (38 to 60 cm) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**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 cm). Frequently designated as the "plow layer," or the "Ap horizon."

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Taxadjuncts.** Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to

be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace** (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The 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."

**Thermokarst.** Subsidence of the ground caused by melting of ground ice.

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Tussock.** A small mound, typically 0.5 to 1 foot (15 to 30 cm) high, consisting of densely packed dead parts of sedges or grasses.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Variiegation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.



# Tables

---

**Table 1. Climate Summaries for Holy Cross, Aniak, and McGrath, Alaska****HOLY CROSS, ALASKA (503655)**

Period of Record : 1/ 1/1931 to 5/31/1975

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	8.4	13.4	21.0	37.1	52.7	65.4	66.7	61.6	52.7	35.8	20.0	8.8	37.0
Average Min. Temperature (F)	-7.0	-2.7	1.7	19.2	32.9	44.0	48.1	46.0	37.8	23.8	6.7	-6.1	20.4
Average Total Precipitation (in.)	0.92	1.13	1.02	0.63	0.90	1.24	2.07	3.79	2.80	1.42	1.05	0.97	17.92
Average Total SnowFall (in.)	13.9	12.8	10.5	6.3	0.3	0.0	1.9	0.0	0.0	5.1	12.9	12.4	76.0
Average Snow Depth (in.)	25	33	39	31	7	0	0	0	0	1	6	15	13

Percent of possible observations for period of record.

Max. Temp.: 87.3% Min. Temp.: 87.3% Precipitation: 85.8% Snowfall: 84% Snow Depth: 72%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.**ANIAP AP, ALASKA (500332)**

Period of Record : 9/ 1/1949 to 3/31/1990

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	9.7	15.4	23.3	35.2	51.6	62.4	65.2	60.5	52.7	35.3	21.4	9.3	36.8
Average Min. Temperature (F)	-7.3	-3.7	1.9	17.0	33.5	43.3	47.2	45.2	36.8	22.2	7.0	-7.1	19.7
Average Total Precipitation (in.)	0.82	0.86	0.92	0.71	1.08	1.54	2.34	4.11	2.69	1.20	1.46	1.10	18.84
Average Total SnowFall (in.)	7.6	9.4	10.0	4.5	1.1	0.0	0.0	0.0	0.0	3.3	10.0	10.0	56.0
Average Snow Depth (in.)	15	18	20	10	1	0	0	0	0	1	4	9	6

Percent of possible observations for period of record.

Max. Temp.: 63.4% Min. Temp.: 63.3% Precipitation: 64.2% Snowfall: 63.5% Snow Depth: 63.5%

**MCGRATH WB AIRPORT, ALASKA (505769)**

Period of Record : 4/ 1/1939 to 12/31/2005

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	1.2	11.1	23.2	38.7	55.5	66.8	68.6	63.1	52.6	32.1	13.0	1.9	35.7
Average Min. Temperature (F)	-16.9	-11.5	-3.3	16.4	34.8	45.7	49.4	45.4	35.6	18.6	-2.7	-15.0	16.4
Average Total Precipitation (in.)	0.98	0.86	0.81	0.69	0.94	1.53	2.27	2.91	2.33	1.35	1.24	1.20	17.12
Average Total SnowFall (in.)	14.5	12.4	11.5	6.5	0.8	0.0	0.0	0.0	1.0	9.8	16.7	18.5	91.7
Average Snow Depth (in.)	23	26	26	18	1	0	0	0	0	2	8	15	10

Percent of possible observations for period of record.

Max. Temp.: 95.8% Min. Temp.: 95.8% Precipitation: 99.3% Snowfall: 97.8% Snow Depth: 96.1%

**Table 2. Temperature at Bethel and Aniak, Alaska**

From Year=1949 to Year=2006

	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Days
<b>Station: (500754) Bethel WSO Airport, Alaska</b>															
Jan.	12.4	-0.5	6.0	48	17/1963	-48	28/1989	25.7	1985	-12.9	1989	0.0	25.4	30.4	16.1
Feb.	15.1	1.3	8.2	46	13/1970	-39	02/1954	26.1	1989	-13.2	1984	0.0	21.7	27.7	13.4
March	21.5	5.4	13.5	48	31/1954	-42	01/1956	29.4	1981	-3.1	1966	0.0	22.1	30.6	12.4
April	33.0	17.2	25.1	63	30/2004	-31	05/1956	34.9	1993	8.3	1985	0.0	12.1	28.0	4.4
May	49.4	32.5	40.9	80	31/1993	4	03/1965	48.1	1981	31.0	1964	0.0	1.4	15.4	0.0
June	60.0	43.0	51.5	86	19/1959	28	01/1960	57.8	1957	45.1	1978	0.0	0.0	0.6	0.0
July	62.9	48.0	55.5	86	11/1951	31	17/1959	61.1	2004	50.5	1959	0.0	0.0	0.0	0.0
Aug.	59.6	46.6	53.1	87	09/2003	28	26/1984	59.4	2004	49.0	1969	0.0	0.0	0.1	0.0
Sept.	51.9	38.4	45.2	72	10/1979	18	27/1957	50.2	1995	37.6	1992	0.0	0.1	5.7	0.0
Oct.	35.8	24.4	30.1	65	02/1954	-6	30/2001	38.5	2006	23.4	2001	0.0	10.4	25.2	0.4
Nov.	23.8	11.7	17.7	51	06/2002	-24	30/1990	27.4	1970	2.8	1963	0.0	20.6	28.5	6.6
Dec.	13.8	0.8	7.3	45	21/1963	-41	28/1957	25.3	1985	-10.7	1999	0.0	25.1	30.5	15.7
Annual	36.6	22.4	29.5	87	20030809	-48	19890128	34.3	2002	24.7	1956	0.0	138.7	222.7	68.9
Winter	13.8	0.6	7.2	48	19630117	-48	19890128	21.8	2001	-2.7	1965	0.0	72.2	88.6	45.1
Spring	34.7	18.4	26.5	80	19930531	-42	19560301	36.6	1981	16.5	1972	0.0	35.6	74.0	16.8
Summer	60.8	45.9	53.4	87	20030809	28	19600601	58.8	2004	50.1	1965	0.0	0.0	0.7	0.0
Fall	37.2	24.8	31.0	72	19790910	-24	19901130	36.4	2002	25.2	1956	0.0	31.0	59.4	7.0
<b>Station: (500332) Aniak, Alaska</b>															
Jan.	9.7	-7.3	1.3	48	05/1953	-72	27/1989	17.0	1963	-15.8	1970	0.0	25.9	29.6	20.2
Feb.	15.4	-3.7	5.9	53	13/1986	-52	29/1956	23.2	1989	-14.2	1990	0.0	21.0	27.5	14.7
March	23.3	1.9	12.6	50	29/1954	-51	01/1956	29.8	1965	-6.2	1959	0.0	21.3	29.6	14.5
April	35.2	17.0	26.1	63	27/1958	-34	06/1956	35.0	1957	13.8	1960	0.0	9.5	26.9	4.6
May	51.6	33.5	42.6	81	26/1960	4	07/1952	47.2	1954	34.7	1964	0.0	0.8	13.0	0.0
June	62.4	43.3	52.8	85	16/1986	28	02/1950	58.6	1957	46.5	1955	0.0	0.0	0.8	0.0
July	65.2	47.2	56.2	87	13/1951	31	30/1951	61.6	1988	52.2	1959	0.0	0.0	0.2	0.0
Aug.	60.5	45.2	52.8	84	05/1968	24	25/1952	55.8	1987	48.7	1969	0.0	0.0	0.7	0.0
Sept.	52.7	36.8	44.8	75	02/1974	5	20/1988	49.4	1965	41.2	1968	0.0	0.0	9.3	0.0
Oct.	35.3	22.2	28.7	63	01/1954	-17	30/1953	36.2	1957	22.0	1965	0.0	11.4	25.8	1.4
Nov.	21.4	7.0	14.2	54	04/1967	-40	30/1987	26.1	1952	-1.3	1956	0.0	22.1	28.6	10.1
Dec.	9.3	-7.1	1.1	49	27/1985	-55	26/1954	27.1	1985	-13.9	1954	0.0	25.8	30.2	19.1
Annual	36.8	19.7	28.3	87	19510713	-72	19890127	32.5	1957	25.2	1961	0.0	137.9	222.1	84.6
Winter	11.4	-6.0	2.8	53	19860213	-72	19890127	8.4	1963	-5.7	1965	0.0	72.7	87.2	54.0
Spring	36.7	17.5	27.1	81	19600526	-51	19560301	33.8	1957	19.6	1966	0.0	31.6	69.5	19.1
Summer	62.7	45.2	53.9	87	19510713	24	19520825	56.6	1957	50.8	1955	0.0	0.0	1.7	0.0
Fall	36.5	22.0	29.3	75	19740902	-40	19871130	35.3	1957	21.4	1956	0.0	33.6	63.6	11.5

For monthly and annual means, thresholds, and sums: Months with 5 or more missing days are not considered. Years with one or more missing months are not considered. Seasons are climatological not calendar seasons

Winter = Dec., Jan., and Feb.    Spring = Mar., Apr., and May    Summer = Jun., Jul., and Aug.    Fall = Sep., Oct., and Nov.

**Table 3. Spring Freeze Probabilities at Bethel and Aniak, Alaska**

<b>Station: (500754) Bethel WSO Airport</b>											
Temp F	Earliest	90%	80%	70%	60%	50%	40%	30%	20%	10%	Latest
36.5	05/18	05/23	05/30	06/01	06/03	06/06	06/08	06/11	06/14	06/27	07/29
32.5	05/04	05/16	05/20	05/22	05/24	05/26	05/30	06/02	06/04	06/09	07/19
28.5	04/25	05/03	05/07	05/09	05/13	05/16	05/18	05/21	05/24	05/27	06/06
24.5	04/18	04/23	04/25	04/28	05/01	05/03	05/05	05/10	05/13	05/18	05/24
20.5	04/04	04/12	04/17	04/22	04/25	04/28	05/01	05/02	05/07	05/09	05/22
<b>Station: (500332) Aniak AP</b>											
36.5	05/29	06/01	06/07	06/12	06/19	06/24	06/30	07/06	07/14	07/19	07/27
32.5	05/11	05/12	05/15	05/28	05/29	05/30	06/04	06/09	06/20	07/10	07/17
28.5	05/04	05/05	05/07	05/09	05/11	05/13	05/16	05/17	05/24	05/29	06/02
24.5	04/15	04/15	04/23	04/27	04/29	05/01	05/03	05/07	05/11	05/13	05/22
20.5	04/15	04/15	04/20	04/26	04/27	05/01	05/02	05/05	05/09	05/13	05/16

Earliest - Earliest date when a minimum temperature below the threshold occurred. xx%—Percent probability that a minimum temperature below the threshold will occur on or after the given date. Latest—Latest date when a minimum temperature below the threshold occurred. 07/30 means the minimum temperature can go below the threshold temperature any day during the Jan. 1 to July 31 period.

**Table 4. Fall Freeze Probabilities for Bethel and Aniak, Alaska**

<b>Station: (500754) Bethel WSO Airport</b>											
Temp F	Earliest	10%	20%	30%	40%	50%	60%	70%	80%	90%	Latest
36.5	08/06	08/15	08/22	08/30	09/02	09/05	09/07	09/10	09/13	09/17	09/26
32.5	08/25	09/02	09/07	09/11	09/14	09/16	09/20	09/23	09/26	09/29	10/05
28.5	08/26	09/12	09/18	09/21	09/23	09/27	09/30	10/01	10/06	10/09	10/13
24.5	09/20	09/25	09/30	10/03	10/05	10/07	10/09	10/10	10/12	10/13	10/25
20.5	09/24	10/02	10/06	10/08	10/10	10/11	10/15	10/17	10/19	10/23	11/05
<b>Station: (500332) Aniak AP</b>											
36.5	07/31	08/03	08/09	08/15	08/19	08/21	08/23	08/26	08/30	09/10	09/17
32.5	07/31	08/13	08/25	08/29	08/31	09/02	09/06	09/08	09/10	09/15	09/18
28.5	08/25	09/03	09/06	09/08	09/13	09/16	09/19	09/21	09/23	09/30	10/02
24.5	08/25	09/07	09/15	09/20	09/20	09/22	09/29	10/03	10/05	10/10	10/18
20.5	09/17	09/20	09/24	09/28	09/29	10/04	10/06	10/09	10/11	10/17	10/18

Earliest—Earliest date when a minimum temperature below the threshold occurred. 07/31 means the minimum temperature can go below the threshold temperature any day during the July 31 to Dec. 31 period. xx%—Percent probability that a minimum temperature below the threshold will occur on or before the given date. Latest—Latest date when a minimum temperature below the threshold occurred.

**Table 5. Growing Degree Days at Bethel and Aniak, Alaska**

Table updated on Apr 23, 2007 From Year=1949 to Year=2006  
 Growing Degree Days for Selected Base Temperature (F)

<b>Station: (500754) Bethel WSO Airport</b>													
Base	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
40 M	0	0	0	3	110	347	479	407	177	11	0	0	1535
40 S	0	0	0	3	113	460	940	1347	1524	1534	1535	1535	1535
45 M	0	0	0	0	42	207	325	253	72	2	0	0	900
45 S	0	0	0	0	42	249	573	827	899	900	900	900	900
50 M	0	0	0	0	11	94	178	115	16	0	0	0	415
50 S	0	0	0	0	11	105	284	398	415	415	415	415	415
55 M	0	0	0	0	2	29	72	33	2	0	0	0	138
55 S	0	0	0	0	2	31	104	137	138	138	138	138	138
60 M	0	0	0	0	0	6	19	7	0	0	0	0	33
60 S	0	0	0	0	0	6	26	32	33	33	33	33	33
<b>Station: (500332) Aniak AP</b>													
40M	0	0	0	4	136	384	502	398	170	11	1	0	1608
40S	0	1	1	5	142	525	1027	1425	1596	1607	1607	1608	1608
45M	0	0	0	0	53	238	347	246	71	2	0	0	959
45S	0	0	0	0	53	292	639	885	956	959	959	959	959
50M	0	0	0	0	13	113	198	112	19	0	0	0	456
50S	0	0	0	0	13	126	324	436	456	456	456	456	456
55M	0	0	0	0	2	36	85	30	3	0	0	0	156
55S	0	0	0	0	2	38	123	153	156	156	156	156	156
60M	0	0	0	0	0	7	28	5	0	0	0	0	40
60S	0	0	0	0	0	7	35	40	40	40	40	40	40

M = Monthly Data

S - Running sum of monthly data.

Growing Degree Day units are computed as the difference between the daily average temperature and the base temperature. (Daily Ave. Temp. - Base Temp.) One unit is accumulated for each degree Fahrenheit the average temperature is above the base temperature. Negative numbers are discarded. Example: If the days high temperature was 95 and the low temperature was 51, the base 60 heating degree day units is  $((95 + 51) / 2) - 60 = 13$ . This is done for each day of the month and summed. Months with five or more missing days are not considered. Years with one or more missing months are not considered.

**Table 6. Acreage and Proportionate Extent of the Soils**

(An \* under "Percent" indicates less than 0.1 percent. Acres figures are based on spatial data files.)

Map symbol	Map unit name	Acres	Percent
29DP03	Noonku family, 0 to 2 percent slopes	77	*
29FP01	Fubar-Noonku families complex, 0 to 3 percent slopes	495	*
29FP02	Salchaket family, 0 to 2 percent slopes	3,838	*
29FP03	Chichantna family, 0 to 2 percent slopes	582	*
29VL02	Village lands, airstrip	78	*
30DP01	Holitnafamily, 0 to 2 percent slopes	291	*
30DP03	Oskawalikfamily, 0 to 2 percent slopes	48	*
30ES01	Waterfall family-Rock outcrop-Sleetmute family complex, 45 to 150 percent slopes	342	*
30FP01	Takotna family-Ituliikfamily complex, 0 to 3 percent slopes	1,484	*
30FP02	Takotna family, 0 to 2 percent slopes	1,379	*
30FP03	Takotna family-Gerstle family complex, 0 to 3 percent slope	938	*
30HI02	Uknavikfamily-Goldstream family-Holitnafamily complex, 3 to 8 percent slopes	1,029	*
30KA02	Kaviriuq silt loam, 3 to 8 percent slopes	471	*
30KA08	Kaviriuq-Nunaniq silt loams, 8 to 15 percent slopes	1,461	*
30MA01	Maqulluq very fine sandy loam, 0 to 3 percent slopes	210	*
30NU02	Nunaniq silt loam, 3 to 8 percent slopes	291	*
30NU03	Nunaniq silt loam, 8 to 15 percent slopes	1,013	*
30NU04	Nunaniq silt loam, 15 to 25 percent slopes	1,095	*
30NU05	Nunaniq silt loam, 25 to 45 percent slopes	2,068	*
30NU06	Nunaniq silt loam, 45 to 100 percent slopes	308	*
30NU07	Nunaniq-Sleetmute family, hillslopes, complex, 8 to 25 percent slopes	2,616	*
30NU08	Nunaniq-Sleetmute family, hillslopes, complex, 25 to 45 percent slopes	2,259	*
30NU12	Nunaniq-Kaviriuq-Teggiuq complex, 8 to 25 percent slopes	3,305	*
30OT01	Aleknagik family-Bonasilafamily complex, 8 to 25 percent slopes	1,637	*
30OT02	Uknavikfamily-Noonku family complex, 3 to 15 percent slopes	1,278	*
30SL01	Sleetmute gravelly silt loam, 25 to 45 percent slopes	922	*
30TE01	Liscum-Huffman families complex, 0 to 2 percent slopes	1,006	*
30TQ01	Teggiuq peat, 3 to 8 percent slopes	1,317	*
30TQ02	Teggiuq peat, 8 to 15 percent	152	*
30TQ03	Teggiuq peat, 15 to 25 percent	156	*
30VL01	Village lands	54	*
30VL02	Village lands, airstrip	293	*
38DP01	Teggiuq family, 0 to 2 percent slopes	351	*
38DP03	Uknavikfamily, 0 to 2 percent slopes	349	*
38ES01	Uknavikfamily, 25 to 100 percent slopes	45	*
38FP01	Salchaket-Happy families complex, 0 to 2 percent slopes	236	*
38FP02	Uknavikfamily-Karheen family complex, 0 to 2 percent slopes	557	*
38FP03	Takotna family-Noonku family complex, 0 to 3 percent slopes	52	*
38TE01	Teggiuq family	450	*
38TE03	Inmachuk-Teggiuq families complex, 0 to 3 percent slopes	303	*
38UL01	Ulesqiirluni silt, 0 to 1 percent slopes	9,434	0.3
38UL02	Ulesqiirluni-Uknavikfamily complex, 0 to 3 percent slopes	7,015	*
38UT01	Ulet silt loam, 0 to 3 percent slopes	1,464	*
38VL02	Village lands, airstrip	220	*
D29FPA	Boreal Flood Plains	144,594	1.5
D29FPB	Boreal Flood Plains, sandy	54,437	0.6
D29FPC	Boreal Flood Plains, wet	32,996	0.3
D29FPE	Boreal Flood Plains, low	35,834	0.4
D29FPG	Boreal Flood Plains, very wet	717	*
D29TEA	Boreal Eolian Terraces	2,508	*
D29TEB	Boreal Terraces, wet	29,297	0.3

Table 6. Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Map unit name	Acres	Percent
D29TEC	Boreal Peatland Terraces	91,155	0.9
D30FAC	Boreal Fans, wet	827	*
D30FAD	Boreal Eolian Fans, wet	296	*
D30FPA	Boreal Flood Plains	7,493	*
D30FPD	Boreal Flood Plains, wet	1,558	*
D30FPE	Boreal Flood Plains, low	2,251	*
D30FPF	Boreal Flood Plains, moist	40,866	0.4
D30FPH	Boreal Flood Plains and Terraces, common permafrost	4,331	*
D30HIA	Boreal Eolian Hills	93,546	1.0
D30HIB	Boreal Eolian Hills, common permafrost	70,022	0.7
D30MTA	Boreal and Subalpine Eolian Mountains	53,706	0.5
D30MTB	Boreal and Subalpine Eolian Mountains, common permafrost	42,137	0.4
D30MTC	Boreal and Subalpine Mountains	33,032	0.3
D30MTD	Boreal and Subalpine Mountains, common permafrost	52,474	0.5
D30TEA	Boreal Terraces	5,469	*
D30TEB	Boreal Terraces, wet	6,353	*
D30TEF	Boreal Terraces, extensive permafrost	7,464	*
D30TEG	Boreal Peatland Terraces, very wet	30,300	0.3
D38FPA	Boreal Flood Plains	75,172	0.8
D38FPB	Boreal Flood Plains, sandy	11,098	0.1
D38FPC	Boreal Flood Plains, wet	31,126	0.3
D38FPD	Boreal Flood Plains, moderately wet	80,681	0.8
D38FPE	Boreal Flood Plains, low	21,219	0.2
D38FPF	Boreal Flood Plains, common permafrost	33,660	0.3
D38HIB	Boreal Eolian Hills, common permafrost	2,814	*
D38TEB	Boreal Peatland Terraces, very wet	9,009	*
D38TEC	Boreal Terraces, common permafrost	6,956	*
D38TED	Boreal Terraces, common permafrost, wet	11,665	0.1
R29FPC	Interior Alaska Lowlands, Boreal Flood Plains and Terraces	59,124	0.6
R29FPD	Interior Alaska Lowlands, Innoko River-Paiumiut Slough Flood Plains	249,853	2.6
R29FPE	Interior Alaska Lowlands, Tundra Flood Plains and Terraces	271,288	2.8
R29FPF	Interior Alaska Lowlands, Holitna River Flood Plains and Terraces	246,673	2.5
R29PLA	Interior Alaska Lowlands, Boreal Glaciated Plains	138,952	1.4
R29PLB	Interior Alaska Lowlands, Boreal Peatlands	295,873	3.0
R29UPA	Interior Alaska Lowlands, Boreal Glaciated Uplands	300,874	3.1
R29UPB	Interior Alaska Lowlands, Boreal Uplands	87,098	0.9
R29UPC	Interior Alaska Lowlands, Boreal Holitna Lowland Sand Sheet	104,214	1.1
R29WAA	Interior Alaska Lowlands, Water	112,955	1.2
R30FPA	Yukon-Kuskokwim Highlands, Boreal Flood Plains and Terraces	164,224	1.7
R30HIA	Yukon-Kuskokwim Highlands, Boreal Hills	587,965	6.0
R30HID	Yukon-Kuskokwim Highlands, Kulukbuk Hills-	264,836	2.7
R30MTA	Yukon-Kuskokwim Highlands, Boreal Low Sedimentary Mountains	473,067	4.8
R30MTB	Yukon-Kuskokwim Highlands, Boreal and Subalpine Low Mountains	1,153,004	11.8
R30MTC	Yukon-Kuskokwim Highlands, Boreal and Subalpine Mountains	784,994	8.0
R30MTD	Yukon-Kuskokwim Highlands, Subalpine and Alpine Glaciated Igneous Mountains	304,023	3.1
R30MTE	Yukon-Kuskokwim Highlands, Subalpine and Alpine Mountains	566,957	5.8
R30UPA	Yukon-Kuskokwim Highlands, Boreal Glaciated Uplands	257,799	2.6
R30UPB	Yukon-Kuskokwim Highlands, Boreal Uplands and Rhyolitic Mountains	232,582	2.4
R30UPC	Yukon-Kuskokwim Highlands, Boreal and Subalpine Glaciated Uplands	42,150	0.4
R30UPD	Yukon-Kuskokwim Highlands, Portage Mountain Uplands	217,094	2.2
R30UPE	Yukon-Kuskokwim Highlands, Tundra Glaciated Uplands	67,969	0.7
R30WAA	Yukon-Kuskokwim Highlands, Water	19,128	0.2
R37MTA	Ahklun Mountains, Subalpine and Alpine Glaciated Mountains	342,534	3.5
R38FPA	Yukon-Kuskokwim Coastal Plain, Aniak River Flood Plain and Terraces	144,996	1.5
R38FPB	Yukon-Kuskokwim Coastal Plain, Boreal Flood Plains and Terraces	29,684	0.3
R38PLA	Yukon-Kuskokwim Coastal Plain, Boreal Plains	117,002	1.2
R38PLB	Yukon-Kuskokwim Coastal Plain, Boreal and Tundra Plains	91,382	0.9
R38PLC	Yukon-Kuskokwim Coastal Plain, Tundra Plains	534,136	5.5
R38UPB	Yukon-Kuskokwim Coastal Plain, Tundra Uplands	214,163	2.2
R38WAA	Yukon-Kuskokwim Coastal Plain, Water	105,977	1.1
	Total	9,762,602	100

Table 7. Engineering Index Properties

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

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29DP03: 29-Noonku family, ponded -----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	PT, ML	A-8, A-4	---	---
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
29FP01: 29-Fubar family, frequent flooding-----	0-6	Stratified sand to loamy fine sand	SP-SM, SM	A-3, A-4, A-2-4	10-40	NP-5
	6-11	Gravelly sand, fine sand, loamy fine sand	GP-GM, SC, SM	A-1-a, A-2-4	10-20	NP-10
	11-60	Stratified extremely gravelly sand to sandy loam	SP, GP	A-1	0-0	NP
29-Noonku family, frequent flooding-----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	PT, ML	A-8, A-4	---	---
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
29FP02: 29-Salchaket family-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
29FP03: 29-Chichantna family----	0-18	Peat	PT	A-8	---	---
	18-60	Mucky silt loam, muck	PT	A-8	---	---
29VL02: 29-Urban land-----	---	---	---	---	---	---
30DP01: 30-Holitnafamily -----	0-43	Mucky peat, peat	PT	A-8	---	---
	43-60	Silt	MH, ML	A-4, A-7, A-5	25-60	NP-15
30DP03: 30-Oskawalikfamily -----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	ML	A-4	25-48	NP-6
	12-30	Silt loam	ML	A-4	25-37	NP-6
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
30ES01: 30-Waterfall family -----	0-3	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	3-8	Very channery silt loam, extremely gravelly loam, very gravelly silt loam	GM, GP-GM	A-4	0-50	NP-15
	8-19	Very cobbly loam, gravelly silt loam, very gravelly silt loam, extremely gravelly silt loam	GP-GM, SM, GM	A-1-a, A-7-5, A-2-5	0-55	NP-11
	19-60	Bedrock			---	---
30-Rock outcrop -----	---	---	---	---	---	---
30-Sleetmute family ----	0-6	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	SM, ML	A-1-b, A-4	25-40	NP-10
	8-13	Very channery fine sandy loam	GW-GM, GM, SM	A-1-a, A-2-4, A-1-b	25-35	NP-10
	13-24	Extremely channery fine sandy loam	GP-GC, GP-GM, GW-GM	A-1-a	16-27	1-6
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10
30FP01: 30-Takotna family -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30-Itulilikfamily -----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	ML	A-4	25-48	NP-6
	12-30	Silt loam	ML	A-4	25-37	NP-6
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10
30FP02: 30-Takotna family -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30FP03: 30-Takotna family-- -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30-Gerstle family- -----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-7	Silt loam, very fine sandy loam	ML	A-4	20-40	NP-10
	7-16	Silt loam, very fine sandy loam	ML	A-4	20-40	NP-10
	16-47	Silt loam, fine sandy loam	ML	A-4	20-40	NP-10
	47-60	Silt loam, fine sandy loam	ML	A-4	20-40	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
30HI02: 30-Uknavikfamily--	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	ML	A-4	25-48	NP-6
	12-30	Silt loam	ML	A-4	25-37	NP-6
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	ML, GM	A-1-b, A-4, A- 2-4	25-40	NP-10
30-Goldstream family ---	0-5	Peat	PT	A-8	---	---
	5-13	Muck	PT	A-8	---	---
	13-16	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	SM, ML	A-4	0-48	NP-9
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam			---	---
30-Holitnafamily -----	0-43	Mucky peat, peat	PT	A-8	---	---
	43-60	Silt	MH, ML	A-4, A-7, A-5	25-60	NP-15
30KA02: 30-Kaviriuq-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	3-6	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	6-15	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	15-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30KA08: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30-Kaviriuq-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	3-6	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	6-15	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	15-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30MA01: 30-Maqulluq -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	8-12	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	12-30	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	SC, SM	A-1-b, A-2-4	10-20	NP-10
30NU02: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
30NU03: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30NU04: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30NU05: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30NU06: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30NU07: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30-Sleetmute family, hillslopes -----	0-9	Slightly decomposed plant material	PT	A-8	---	---
	9-12	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	SM	A-4	0-48	NP-9
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	ML	A-4	0-55	NP-11
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	ML	A-4	25-35	NP-10
30NU08: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
30NU08: 30-Sleetmute family, hillslope -----	0-9	Slightly decomposed plant material	PT	A-8	---	---
	9-12	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	SM	A-4	0-48	NP-9
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	ML	A-4	0-55	NP-11
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	ML	A-4	25-35	NP-10
30NU12: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	2-7	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	7-14	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	14-35	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	35-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
30-Teggiuq -----	0-8	Peat	PT	A-8	---	---
	8-10	Mucky peat	PT	A-8	---	---
	10-22	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	22-30	Mucky silt loam, silt, silt loam	MH, ML	A-4	15-60	NP-10
	30-46	Silt, silt loam	ML	A-4	25-40	NP-10
	46-60	Permanently frozen material			---	---
30-Kaviriuq -----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	3-6	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	6-15	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	15-60	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-	30-50	NP-10
30OT01: 30-Aleknagik family -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-3	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	3-6	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	6-32	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	32-60	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
30-Bonasilafamily -----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-7	Silt loam, very fine sandy loam	ML	A-4	20-40	NP-10
	7-16	Silt loam, very fine sandy loam	ML	A-4	20-40	NP-10
	16-47	Silt loam, fine sandy loam	ML	A-4	20-40	NP-10
	47-60	Silt loam, fine sandy loam	ML	A-4	20-40	NP-10
30OT02: 30-Uknavikfamily -----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	ML	A-4	25-48	NP-6
	12-30	Silt loam	ML	A-4	25-37	NP-6
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	ML, GM	A-1-b, A-4, A- 2-4	25-40	NP-10
30-Noonku family -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-28	Fine sand, stratified silt loam to coarse sand	SC, SM	A-4, A-2-4	10-20	NP-10
	28-60	Gravelly loamy coarse sand, extremely gravelly sand, stratified very gravelly coarse sand to gravelly silt loam	GW	A-1	0-14	NP

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
30SL01: 30-Sleetmute -----	0-3	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	3-6	Very channery silt loam, extremely gravelly loam, extremely gravelly silt loam	GM, GP-GM	A-4	0-50	NP-15
	6-19	Gravelly loam, extremely gravelly fine sandy loam, very gravelly silt loam	SM, GM	A-5, A-2-4	0-48	NP-9
	19-60	Very cobbly loam, extremely channery silt loam, very gravelly silt loam, gravelly silt loam	GP-GM, SM, GM	A-1-a, A-7-5, A-2-5	0-55	NP-11
30TE01: 30-Liscum family -----	0-6	Stratified peat to silt loam	PT	A-8	---	---
	6-15	Mucky peat	PT	A-8	---	---
	15-26	Silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	26-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	ML	A-4	25-35	NP-10
30-Huffman family -----	0-53	Peat	PT	A-8	---	---
	53-60	Fine sand, gravelly sand, silt, silt loam	SP-SM, SC, SC-SM	A-2-4, A-1-b	15-30	NP-10
30TQ01: 30-Teggiuq-----	0-8	Peat	PT	A-8	---	---
	8-10	Mucky peat	PT	A-8	---	---
	10-22	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	22-30	Mucky silt loam, silt, silt loam	MH, ML	A-4	15-60	NP-10
	30-46	Silt, silt loam	ML	A-4	25-40	NP-10
	46-60	Permanently frozen material			---	---
30TQ02: 30-Teggiuq-----	0-8	Peat	PT	A-8	---	---
	8-10	Mucky peat	PT	A-8	---	---
	10-22	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	22-30	Mucky silt loam, silt, silt loam	MH, ML	A-4	15-60	NP-10
	30-46	Silt, silt loam	ML	A-4	25-40	NP-10
	46-60	Permanently frozen material			---	---
30TQ03: 30-Teggiuq-----	0-8	Peat	PT	A-8	---	---
	8-10	Mucky peat	PT	A-8	---	---
	10-22	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	22-30	Mucky silt loam, silt, silt loam	MH, ML	A-4	15-60	NP-10
	30-46	Silt, silt loam	ML	A-4	25-40	NP-10
	46-60	Permanently frozen material			---	---
30VL01: 30-Urban land	---	---	---	---	---	---
30VL02: 30-Urban land	---	---	---	---	---	---
38DP01: 38-Teggiuq family -----	0-24	Mucky peat, peat	PT	A-8	---	---
	24-31	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt loam, permanently frozen silt			---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
38DP03: 38-Uknavikfamily -----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10
38ES01: 38-Uknavikfamily, steep-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10
38FP01: 38-Salchaket family-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-2-4, A-4	15-35	NP-10
	3-28	Silt loam, stratified muck to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to moderately decomposed plant material	ML, SM	A-1-b, A-5, A-4	25-45	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam, very fine sandy loam, stratified silt loam to gravelly sandy loam	SP-SM, ML, SM	A-1-b, A-5, A-4	25-45	NP-10
38-Happy family -----	0-6	Peat, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	6-11	Silt, very fine sandy loam, silt loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	11-22	Silt loam, stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, very fine sandy loam, stratified muck to very fine sandy loam	SW-SM, MH, SM	A-1-b, A-7, A-5	25-60	NP-15
	22-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen very fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	SP-SM, ML, SM	A-1-b, A-4	---	---
38FP02: 38-Uknavikfamily -----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10
38-Karheen family-----	0-7	Mucky peat, peat	PT	A-8	---	---
	7-22	Muck, peat, mucky peat	PT	A-8	---	---
	22-60	Mucky peat, peat, muck	PT	A-8	---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
38FP03: 38-Takotna family, frequent flooding-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
38-Noonku family, frequent flooding-----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	PT, ML	A-8, A-4	---	---
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
38TE01: 38-Teggiuq family-----	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
38TE03: 38-Inmachuk family-----	0-24	Mucky peat, peat	PT	A-8	---	---
	24-31	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt loam, permanently frozen silt			---	---
38-Teggiuq family-----	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
38UL01: 38-Ulesqiirluni-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Stratified silt to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified gravelly fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38UL02: 38-Ulesqiirluni-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Stratified silt to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified gravelly fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38-Uknavikfamily-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
38UT01: 38-Ulet -----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Silt loam	ML	A-4	25-35	NP-10
	6-9	Stratified sand to very gravelly silt loam	SP-SM, CL, SM	A-1-b, A-4, A-	15-30	NP-10
	9-60	Stratified gravelly sand to fine sand to silt	ML	A-4	15-35	NP-10
38VL02: 38-Urban land -----	---	---	---	---	---	---
D29FPA: 29-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
29-Boreal scrub, loamy flood plains, frequent flooding -----	0-10	Stratified silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	SW-SM, MH, SM	A-2, A-5	25-60	NP-15
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	39-60	Stratified silt loam to fine sandy loam	SP-SM, ML	A-2, A-4	30-40	NP-10
D29FPB: 29-Boreal forest, sandy flood plains -----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-10	Fine sandy loam	ML	A-4	35-45	NP-10
	10-20	Fine sandy loam, loamy fine sand, silt loam	ML	A-4	15-35	NP-10
	20-60	Gravelly loamy fine sand, stratified sand to fine sandy loam	SM	A-1	0-10	NP-5
29-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
D29FPC: 29-Boreal grass, loamy flood plains -----	0-2	Mucky peat	PT	A-8	---	---
	2-9	Silt loam	ML	A-4	25-35	NP-10
	9-18	Silt loam	ML	A-4	25-35	NP-10
	18-60	Stratified silt loam to very fine sand	ML	A-4	25-35	NP-10
29-Boreal scrub, loamy depressions -----	0-7	Highly decomposed plant material, mixed silt, stratified silt loam to moderately decomposed plant material	PT, ML	A-8, A-4	---	---
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D29FPE: 29-Boreal scrub, loamy flood plains, frequent flooding-----	0-10	Stratified silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	SW-SM, MH, SM	A-2, A-5	25-60	NP-15
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	39-60	Stratified silt loam to fine sandy loam	SP-SM, ML	A-2, A-4	30-40	NP-10
29-Boreal forest, loamy flood plains, frequent flooding-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, very fine sandy loam, silt loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
D29FPG: 29-Boreal grass, organic depressions----	0-53	Peat	PT	A-8	---	---
	53-60	Fine sand, gravelly sand, silt, silt loam	SP-SM, SC, SC-SM	A-2-4, A-1-b	15-30	NP-10
29-Boreal scrub, loamy depressions-----	0-7	Highly decomposed plant material, mixed silt, stratified silt loam to moderately decomposed plant material	PT, ML	A-8, A-4	---	---
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
D29TEA: 29-Boreal woodland, loamy terraces-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-12	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	12-22	Fine sandy loam, very fine sandy loam, silt loam	SM, ML	A-1-b, A-5, A-4	30-50	NP-10
	22-43	Loam, very fine sandy loam, silt loam	SM, ML	A-2-4, A-4, A-5	30-50	NP-10
	43-60	Fine sand, loamy fine sand, sand, fine sandy loam	SC-SM, SC, ML	A-1-b, A-4	0-20	NP-10
29-Boreal scrub, loamy flood plains, rare flooding-----	0-10	Stratified silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	SW-SM, MH, SM	A-2, A-5	25-60	NP-15
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	39-60	Stratified silt loam to fine sandy loam	SP-SM, ML	A-2, A-4	30-40	NP-10
29-Boreal woodland, sandy terraces-----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	ML, SC-SM	A-1, A-4	20-30	NP-5
	8-12	Silt loam, very fine sandy loam, fine sandy loam	ML, SC-SM	A-1, A-4	20-30	NP-5
	12-30	Silt loam, very fine sandy loam, fine sandy loam	ML, SC-SM	A-1, A-4	20-30	NP-5
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	SC, SM	A-1, A-2	10-20	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
D29TEB:						
29-Boreal grass, organic flood plains, rare flooding -----	0-47 47-51 51-60	Peat, stratified mucky peat to silt loam Peat, stratified peat to silt loam Silt loam, fine sandy loam	PT PT CL, ML	A-8 A-8 A-4	--- --- 15-30	--- --- NP-10
29-Boreal scrub, loamy depressions -----	0-7  7-31  31-60	Highly decomposed plant material, mixed silt, stratified silt loam to moderately decomposed plant material Silt, silt loam, very fine sandy loam, fine sandy loam Fine sandy loam, silt, silt loam, very fine sandy loam	PT, ML  MH, ML  MH, ML	A-8, A-4  A-5, A-4  A-5, A-4	---  20-50  20-50	---  NP-10  NP-10
D29TEC:						
29-Boreal grass, organic flood plains, rare flooding-----	0-47 47-51 51-60	Peat, stratified mucky peat to silt loam Peat, stratified peat to silt loam Silt loam, fine sandy loam	PT PT CL, ML	A-8 A-8 A-4	--- --- 15-30	--- --- NP-10
29-Boreal scrub, organic depressions ----	0-18 18-60	Mucky peat, peat Mucky peat, muck	PT PT	A-8 A-8	--- ---	--- ---
D30FAC:						
30-Boreal forest, loamy fans-----	0-5 5-9  9-12 12-30 30-60	Slightly decomposed plant material Slightly decomposed plant material, moderately decomposed plant material Mucky silt, stratified silt loam to mucky peat Silt loam Gravelly silt loam, very gravelly silt loam, silt loam	PT PT  ML ML ML, GM	A-8 A-8  A-4 A-4 A-1-b, A-4, A- 2-4	--- ---  25-48 25-37 25-40	--- ---  NP-6 NP-6 NP-10
30-Boreal scrub, loamy fans-----	0-8 8-15 15-17 17-22 22-60	Peat Mucky peat Mucky silt loam, stratified silt loam to mucky peat Silt loam, gravelly silt loam Permanently frozen gravelly silt loam, permanently frozen silt loam, permanently frozen very gravelly silt loam	PT PT ML  ML ML, GM	A-8 A-8 A-4  A-4 A-1-b, A-4, A-2-4	--- --- 25-48  25-37 ---	--- --- NP-6  NP-6 ---
30-Boreal forest, loamy terraces -----	0-4 4-7 7-16 16-47 47-60	Moderately decomposed plant material Silt loam, very fine sandy loam Silt loam, very fine sandy loam Silt loam, fine sandy loam Silt loam, fine sandy loam	PT ML ML ML ML	A-8 A-4 A-4 A-4 A-4	--- 20-40 20-40 20-40 20-40	--- NP-10 NP-10 NP-10 NP-10
30-Boreal sedge, loamy depressions, occasional flooding -----	0-1 1-10 10-37 37-60	Stratified peat to silt loam Very fine sandy loam, silt loam Very fine sandy loam, silt loam Stratified silt loam to loamy very fine sand, very fine sandy loam	PT ML ML ML	A-8 A-4 A-4 A-4	--- 15-35 15-35 25-35	--- NP-10 NP-10 NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30FAD: 30-Boreal scrub, gravelly drainages, outwash fan -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-28	Fine sand, stratified silt loam to coarse sand	SC, SM	A-4, A-2-4	10-20	NP-10
	28-60	Gravelly loamy coarse sand, extremely gravelly sand, stratified very gravelly coarse sand to gravelly silt loam	GW	A-1	0-14	NP
30-Boreal scrub, loamy drainages outwash fan -	0-8	Moderately decomposed plant material	PT	A-8	---	---
	8-10	Mucky very fine sandy loam, silt loam, very fine sandy loam	ML	A-4	29-47	1-5
	10-25	Silt loam, loamy sand	ML	A-2	25-48	NP-6
	25-60	Very gravelly fine sandy loam, stratified very gravelly coarse sand o gravelly silt loam, stratified silt loam to gravelly loamy coarse sand	SM	A-3	0-14	NP
D30FPA: 30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30-Boreal forest, sandy flood plains -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-3	Fine sandy loam	ML	A-4	35-45	NP-10
	3-41	Stratified sand to highly decomposed plant material	SM	A-2	35-45	NP-10
	41-60	Gravelly loamy fine sand, stratified sand to fine sandy loam	SM	A-1	0-10	NP-5
D30FPD: 30-Boreal sedge, loamy depressions -----	0-1	Stratified peat to silt loam	PT	A-8	---	---
	1-10	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	10-37	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	ML	A-4	25-35	NP-10
30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30-Water	---	---	---	---	---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30FPE: 30-Boreal scrub, gravelly flood plains, frequent flooding-----	0-1	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	1-4	Stratified sand to fine sandy loam to silt loam, loamy fine sand	SP-SM	A-3	0-5	NP-5
	4-47	Stratified fine sand to gravelly sand, stratified extremely gravelly sand to silt loam, stratified very gravelly sand to very gravelly loamy fine sand	GW	A-1	0-15	NP-5
	47-60	Stratified extremely gravelly coarse sand to very gravelly loamy sand, stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam	GP, SP-SM	A-1, A-2	0-15	NP-5
30-Boreal scrub, silty flood plains, frequent flooding-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	10-22	Silt, silt loam	ML	A-4	25-40	NP-10
	22-60	Silt, silt loam	ML	A-4	25-40	NP-10
D30FPF: 30-Boreal scrub, silty flood plains-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	10-22	Silt, silt loam	ML	A-4	25-40	NP-10
	22-60	Silt, silt loam	ML	A-4	25-40	NP-10
30-Boreal forest, loamy flood plains-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
D30FPH: 30-Boreal scrub, loamy flood plains-----	0-6	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	6-11	Silt, very fine sandy loam, silt loam	ML	A-4	30-40	NP-10
	11-18	Stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, stratified very fine sandy loam to silt loam	SM, ML	A-2, A-4	30-40	NP-10
	18-30	Stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, stratified very fine sandy loam to silt loam	SM, ML	A-2, A-4	30-40	NP-10
	30-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	SM, ML	A-2, A-4	30-40	NP-10
30-Boreal scrub, silty flood plains-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	10-22	Silt, silt loam	ML	A-4	25-40	NP-10
	22-60	Silt, silt loam	ML	A-4	25-40	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30FPH: 30-Boreal forest, loamy flood plains-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
D30HIA: 30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-5	Silt, silt loam	ML	A-4	25-40	NP-10
	5-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-30	Silt, silt loam	ML	A-4	25-40	NP-10
	30-60	Silt, silt loam	ML	A-4	25-40	NP-10
30-Boreal forest, loamy eolian slopes-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10
30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	GP-GM, ML	A-1, A-5, A-4	0-48	NP-9
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	GP-GM, ML, SM	A-5, A-1	0-48	NP-9
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam	GP-GM, GM, SM	A-5, A-1	0-48	NP-9
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	GP, GM	A-1, A-7-5, A-2	0-55	NP-11
D30HIB: 30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-5	Silt, silt loam	ML	A-4	25-40	NP-10
	5-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-30	Silt, silt loam	ML	A-4	25-40	NP-10
	30-60	Silt, silt loam	ML	A-4	25-40	NP-10
30-Boreal taiga, loamy eolian slopes-----	0-8	Mucky peat, peat	PT	A-8	---	---
	8-11	Muck, peat, mucky peat	PT	A-8	---	---
	11-16	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	16-31	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
30-Boreal scrub- sedge, loamy eolian slopes-----	0-4	Muck, peat, mucky peat	PT	A-8	---	---
	4-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-12	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	12-60	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
D30MTA:						
30-Boreal forest, loamy eolian slopes-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10
30-Boreal woodland, loamy eolian slopes-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Moderately decomposed plant material	PT	A-8	---	---
	4-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-10	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	10-60	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	ML	A-4	0-50	NP-9
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	GM, SM	A-2	0-48	NP-9
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	GM	A-2	0-55	NP-11
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0-29	NP-10
D30MTB:						
30-Boreal woodland, loamy eolian slopes-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Moderately decomposed plant material	PT	A-8	---	---
	4-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-10	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	10-60	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
30-Boreal taiga, loamy eolian slopes-----	0-8	Mucky peat, peat	PT	A-8	---	---
	8-11	Muck, peat, mucky peat	PT	A-8	---	---
	11-16	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	16-31	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
30-Boreal forest, loamy eolian slopes-----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30MTC: 30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	GP-GM, ML	A-1, A-5, A-4	0-48	NP-9
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	GP-GM, ML, SM	A-5, A-1	0-48	NP-9
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	GP-GM, GM, SM	A-5, A-1	0-48	NP-9
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	GP, GM	A-1, A-7-5, A-2	0-55	NP-11
30-Boreal woodland, loamy colluvial slopes-----	0-11	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	11-15	Fine sandy loam, gravelly silt loam, silt loam	SM, ML	A-1-b, A-4	25-40	NP-10
	15-18	Gravelly fine sandy loam, silt loam	SM, ML	A-2-4, A-4	25-40	NP-10
	18-60	Very cobbly silt loam, very gravelly silt loam, silt loam, gravelly silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	ML	A-4	0-50	NP-9
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	GM, SM	A-2	0-48	NP-9
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	GM	A-2	0-55	NP-11
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0-29	NP-10
D30MTD: 30-Boreal woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	SM, ML	A-1-b, A-4	25-40	NP-10
	8-13	Very channery fine sandy loam			25-35	NP-10
	13-24	Extremely channery fine sandy loam			16-27	1-6
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10
30-Boreal taiga, loamy colluvial slopes-----	0-5	Peat	PT	A-8	---	---
	5-13	Muck	PT	A-8	---	---
	13-16	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	SM, ML	A-4	0-48	NP-9
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam			---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30MTD: 30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	ML	A-4	0-50	NP-9
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	GM, SM	A-2	0-48	NP-9
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	GM	A-2	0-55	NP-11
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0-29	NP-10
D30TEA: 30-Boreal woodland, sandy terraces -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	8-12	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	12-30	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	SC, SM	A-1-b, A-2-4	10-20	NP-10
30-Boreal woodland, loamy terraces -----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-12	Very fine sandy loam, silt loam	SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	12-22	Fine sandy loam, very fine sandy loam, silt loam	SM, ML	A-4	30-50	NP-10
	22-43	Loam, very fine sandy loam, silt loam	ML	A-4	30-50	NP-10
	43-60	Fine sand, loamy fine sand, sand, fine sandy loam	SC-SM, SC, ML	A-1-b, A-4	0-20	NP-10
30-Boreal woodland, gravelly terraces -----	0-7	Mucky peat, peat	PT	A-8	---	---
	7-11	Mucky peat	PT	A-8	---	---
	11-16	Stratified fine sand to silt, silt loam	ML, SM	A-4	20-30	NP-5
	16-27	Stratified fine sand to silt, silt loam	ML, SM	A-4	20-30	NP-5
	27-60	Extremely cobbly coarse sand, extremely gravelly coarse sand, extremely gravelly sand	GP-GM	A-1	20-30	NP
D30TEB: 30-Boreal scrub, silty terraces -----	0-4	Peat	PT	A-8	---	---
	4-7	Silt, silt loam	ML	A-4	25-40	NP-10
	7-9	Peat, muck	PT	A-8	---	---
	9-13	Silt, silt loam	ML	A-4	25-40	NP-10
	13-23	Silt loam, silt	ML	A-4	25-40	NP-10
	23-60	Silt loam, silt	ML	A-4	25-40	NP-10
30-Boreal sedge, loamy depressions -----	0-1	Stratified slightly decomposed plant material to silt loam	PT	A-8	---	---
	1-10	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	10-37	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	ML	A-4	25-35	NP-10
30-Boreal scrub, organic depressions ----	0-39	Muck, peat, mucky peat	PT	A-8	---	---
	39-47	Mucky peat, peat	PT	A-8	---	---
	47-60	Muck, peat, mucky peat	PT	A-8	---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D30TEF:						
30-Boreal scrub-sedge, loamy terraces -----	0-3	Peat	PT	A-8	---	---
	3-10	Muck, mucky peat	PT	A-8	---	---
	10-17	Very fine sandy loam	MH, ML	A-5, A-4	30-50	NP-10
	17-26	Very fine sandy loam	SM, ML	A-4	30-50	NP-10
	26-60	Permanently frozen material			---	---
30-Boreal scrub, loamy terraces -----	0-16	Mucky peat, peat	PT	A-8	---	---
	16-25	Peat, mucky peat	PT	A-8	---	---
	25-28	Very fine sandy loam, silt loam	ML	A-5, A-4	30-50	NP-10
	28-30	Very fine sandy loam, silt loam	ML	A-5, A-4	30-50	NP-10
	30-60	Permanently frozen very fine sandy loam, permanently frozen silt loam	ML	A-4	---	---
30-Boreal taiga, loamy terraces -----	0-10	Peat	PT	A-8	---	---
	10-13	Mucky silt loam, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	13-29	Silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	29-60	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
D30TEG:						
30-Boreal scrub, organic terraces-----	0-24	Mucky peat, muck, peat	PT	A-8	---	---
	24-59	Muck, peat, mucky peat	PT	A-8	---	---
	59-60	Mucky peat, peat, muck	PT	A-8	---	---
30-Boreal sedge, loamy depressions -----	0-1	Stratified peat to silt loam	PT	A-8	---	---
	1-10	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	10-37	Very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	ML	A-4	25-35	NP-10
D38FPA:						
38-Boreal forest, silty flood plains, occasional flooding -----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Stratified silt loam to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38-Boreal scrub, silty flood plains, moderately wet-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10
D38FPB:						
38-Boreal forest, sandy flood plains -----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-8	Stratified silt loam to slightly decomposed plant material	ML	A-7, A-4	35-45	NP-15
	8-39	Stratified loamy fine sand to silt loam	MH, SM, ML	A-5, A-4	30-50	NP-10
	39-60	Stratified gravelly sand to gravelly loamy fine sand, stratified sand to loamy fine sand	SP-SM, SM	A-3, A-4, A-2-4	10-40	NP-5
38-Boreal scrub, silty flood plains-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	---	---
	4-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
D38FPB: 38-Boreal scrub, sandy flood plains -----	0-3 3-7 7-60	Moderately decomposed plant material Silt loam Stratified sand to silt loam	PT ML SP-SM, CL, SM	A-8 A-4 A-1-b, A-4, A-2-4	--- 25-35 15-30	--- NP-10 NP-10
D38FPC: 38-Boreal scrub, silty flood plains -----	0-4 4-22 22-60	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam Silt, silt loam Silt, silt loam	PT ML ML	A-8 A-4 A-4	--- 15-35 15-35	--- NP-10 NP-10
38-Boreal sedge, loamy depressions, occasional flooding -----	0-1 1-28 28-60	Stratified peat to silt loam Mucky silt loam, silt, silt loam Very fine sandy loam, stratified silt loam to loamy very fine sand	PT ML ML	A-8 A-4 A-4	--- 15-35 25-35	--- NP-10 NP-10
38-Boreal grass, organic flood plains -----	0-47 47-51 51-60	Peat, stratified mucky peat to silt loam Peat, stratified peat to silt loam Silt loam, fine sandy loam	PT PT CL, ML	A-8 A-8 A-4	--- --- 15-30	--- --- NP-10
D38FPD: 38-Boreal scrub, silty flood plains -----	0-4 4-22 22-60	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam Silt, silt loam Silt, silt loam	PT ML ML	A-8 A-4 A-4	--- 15-35 15-35	--- NP-10 NP-10
38-Boreal forest, silty flood plains -----	0-2 2-6 6-37 37-55 55-60	Moderately decomposed plant material Stratified silt loam to highly decomposed plant material Stratified silt loam to silt Stratified silt loam to slightly decomposed plant material Stratified fine sand to silt, stratified silt to silt loam	PT ML ML ML ML	A-8 A-4 A-4 A-4 A-4	--- 30-40 25-35 30-40 15-35	--- NP-10 NP-10 NP-10 NP-10
D38FPE: 38-Boreal scrub, gravelly flood plains, frequent flooding -----	0-4 4-47 47-60	Stratified very gravelly sand to fine sand, stratified sand to fine sandy loam to silt loam, loamy fine sand Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, very gravelly loamy coarse sand Stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam	SP-SM, CL, SM GW-GC, GP, GP-GM SC-SM, GP, GM	A-3, A-4, A-2-4 A-1-a A-2-4, A-1-a	15-30 0-15 0-15	NP-10 NP-5 NP-5
38-Boreal scrub, silty flood plains, frequent flooding -----	0-4 4-22 22-60	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam Silt, silt loam Silt, silt loam	PT ML ML	A-8 A-4 A-4	--- 15-35 15-35	--- NP-10 NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
D38FPF: 38-Boreal scrub, loamy flood plains, Yukon Delta-----	0-6	Peat, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	6-11	Silt, very fine sandy loam, silt loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	11-30	Silt loam, stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, very fine sandy loam, stratified silt loam to very fine sandy loam	SW-SM, MH, SM	A-1-b, A-7, A-5	25-60	NP-15
	30-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen very fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	SP-SM, ML, SM	A-1-b, A-4	---	---
38-Boreal forest, silty flood plains, moderately wet-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Stratified silt loam to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38-Boreal taiga, organic terraces, rare flooding-----	0-20	Mucky peat, peat	PT	A-8	---	---
	20-25	Peat, mucky peat	PT	A-8	---	---
	25-32	Mucky silt loam, silt loam, silt	ML	A-7, A-4	15-60	NP-15
	32-60	Permanently frozen silt loam, permanently frozen silt			---	---
D38HIB: 38-Boreal scrub, loamy eolian slopes, frozen, wet-----	0-15	Mucky peat, peat	PT	A-8	---	---
	15-28	Very fine sandy loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	28-42	Very fine sandy loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	42-60	Permanently frozen silt, permanently frozen silt loam		A-4	---	---
38-Boreal woodland, loamy eolian slopes, Yukon-Kuskokwim Coastal Plain-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-8	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	8-11	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	11-19	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	19-60	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
38-Boreal scrub- sedge, loamy terraces, frozen -	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
D38TEB: 38-Boreal sedge, loamy depressions-----	0-1	Stratified peat to silt loam	PT	A-8	---	---
	1-7	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	7-28	Silt, silt loam	ML	A-4	15-35	NP-10
	28-60	Very fine sandy loam, stratified silt loam to loamy very fine sand	ML	A-4	25-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
D38TEB:						
38-Boreal sedge, organic depressions ----	0-7	Mucky peat, peat	PT	A-8	---	---
	7-22	Muck, peat, mucky peat	PT	A-8	---	---
	22-60	Mucky peat, peat, muck	PT	A-8	---	---
38-Boreal forest, silty flood plains, rare flooding-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-6	Stratified silt loam to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38-Boreal scrub- sedge, loamy terraces -----	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
38-Water-----	---	---	---	---	---	---
D38TEC:						
38-Boreal taiga, organic terraces-----	0-20	Mucky peat, peat	PT	A-8	---	---
	20-25	Peat, mucky peat	PT	A-8	---	---
	25-32	Mucky silt loam, silt loam, silt	ML	A-7, A-4	15-60	NP-15
	32-60	Permanently frozen silt loam, permanently frozen silt			---	---
38-Boreal scrub- sedge, loamy terraces -----	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
38-Boreal dwarf scrub, silty terraces -----	0-12	Peat	PT	A-8	---	---
	12-13	Mucky silt, mucky silt loam	MH, ML	A-4, A-5	40-60	NP-10
	13-22	Silt, very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	22-47	Silt, very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	47-60	Silt, very fine sandy loam, silt loam	ML	A-4	15-35	NP-10
D38TED:						
38-Boreal scrub- sedge, loamy terraces -----	0-7	Peat	PT	A-8	---	---
	7-14	Peat, mucky peat	PT	A-8	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			---	---
38-Boreal scrub, loamy terraces -----	0-4	Highly decomposed plant material	PT	A-8	---	---
	4-8	Silt loam, very fine sandy loam	SM, ML	A-4	25-35	NP-10
	8-14	Silt loam, very fine sandy loam	SM, ML	A-4	25-35	NP-10
	14-22	Fine sandy loam, silt loam	SM, ML	A-4	20-35	NP-10
	22-60	Silt, silt loam	ML	A-4	25-35	NP-10
38-Boreal scrub- sedge, organic terraces-----	0-24	Mucky peat, peat	PT	A-8	---	---
	24-31	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt loam, permanently frozen silt			---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
R29FPC: 29-Boreal forest, gravelly flood plains -----	0-3	Highly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-5	Fine sandy loam, loamy fine sand, silt loam	ML	A-4	15-35	NP-10
	5-12	Fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	12-43	Stratified sand to fine sandy loam to silt loam	SP-SM	A-3	15-30	NP-5
	43-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, stratified gravelly sand to fine sandy loam	GW	A-1	0-14	NP
29-Boreal forest, loamy flood plains -----	0-1	Peat, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	SP-SM, ML	A-1, A-4	30-40	NP-10
29-Boreal grass, organic flood plains -----	0-47	Peat, stratified mucky peat to silt loam	PT	A-8	---	---
	47-51	Peat, stratified peat to silt loam	PT	A-8	---	---
	51-60	Silt loam, fine sandy loam	CL, ML	A-4	15-30	NP-10
R29FPD: 29-Boreal scrub, loamy flood plains -----	0-10	Stratified silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	SW-SM, MH, SM	A-2, A-5	25-60	NP-15
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	39-60	Stratified silt loam to fine sandy loam	SP-SM, ML	A-2, A-4	30-40	NP-10
29-Boreal grass, loamy flood plains -----	0-2	Mucky peat	PT	A-8	---	---
	2-9	Silt loam	ML	A-4	25-35	NP-10
	9-18	Silt loam	ML	A-4	25-35	NP-10
	18-60	Stratified silt loam to very fine sand	ML	A-4	25-35	NP-10
R29FPE: 29-Boreal scrub, organic flood plains -----	0-28	Highly decomposed plant material, stratified highly decomposed plant material to slightly decomposed plant material	PT	A-8	---	---
	28-33	Fine sandy loam, silt loam	CL, ML	A-4	15-30	NP-10
	33-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam, permanently frozen very fine sandy loam, permanently frozen material	SP-SM, ML, SM	A-1-b, A-4	15-35	NP-10
29-Boreal grass, organic flood plains -----	0-47	Peat, stratified mucky peat to silt loam	PT	A-8	---	---
	47-51	Peat, stratified peat to silt loam	PT	A-8	---	---
	51-60	Silt loam, fine sandy loam	CL, ML	A-4	15-30	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R29FPF: 29-Boreal forest, gravelly flood plains-----	0-3	Highly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-5	Fine sandy loam, loamy fine sand, silt loam	ML	A-4	15-35	NP-10
	5-12	Fine sandy loam, silt loam	ML	A-4	15-35	NP-10
	12-43	Stratified sand to fine sandy loam to silt loam	SP-SM	A-3	15-30	NP-5
	43-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, stratified gravelly sand to fine sandy loam	GW	A-1	0-14	NP
29-Boreal woodland, sandy terraces -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	8-12	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	12-30	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	GC, GM, SC, SM	A-1-a, A-2-4	10-20	NP-10
29-Boreal scrub, loamy flood plains -----	0-10	Stratified silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	SW-SM, MH, SM	A-2, A-5	25-60	NP-15
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-3, A-4	30-40	NP-10
	39-60	Stratified silt loam to fine sandy loam	SP-SM, ML	A-2, A-4	30-40	NP-10
R29PLA: 29-Boreal grass, loamy depressions -----	0-2	Peat, mucky peat	PT	A-8	---	---
	2-6	Silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	6-19	Silt loam, very fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	19-59	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10
	59-60	Stratified very fine sandy loam to silt loam	MH, ML	A-5, A-4	20-50	NP-10
29-Boreal woodland, silty terraces -----	0-10	Mucky peat, peat, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	10-12	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	12-22	Silt, silt loam	ML	A-4	0-48	NP-6
	22-54	Silt loam, silt	ML	A-4	0-33	NP-6
	54-60	Silt, silt loam	ML	A-4	0-24	NP-6
29-Boreal forest, loamy till plains-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-2	Silt, silt loam	ML	A-4	25-40	NP-10
	2-5	Gravelly silt loam, silt, silt loam, loam	ML	A-4	25-40	NP-10
	5-15	Very cobbly loam, gravelly silt loam, very gravelly sandy loam, gravelly loam	SM, GM	A-2	25-35	NP-10
	15-60	Very cobbly loam, very gravelly silt loam, very gravelly sandy loam, gravelly loam	SM, GM	A-2, A-1	25-35	NP-10
29-Boreal sedge, organic depressions ----	0-7	Peat	PT	A-8	---	---
	7-17	Mucky peat	PT	A-8	---	---
	17-28	Mucky peat, peat, muck	PT	A-8	---	---
	28-60	Silt, silt loam, very fine sandy loam, fine sandy loam	MH, ML	A-5, A-4	20-50	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
R29PLB: 29-Boreal sedge, organic plains-----	0-26 26-39 39-60	Peat Water Mucky peat	PT  PT	A-8  A-8	--- --- ---	--- --- ---
29-Water-----	---	---	---	---	---	---
R29UPA: 29-Boreal scrub, organic plains-----	0-17 17-22 22-27 27-60	Muck, stratified muck to peat Silt, silt loam Mixed muck, silt loam, mucky peat Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam, permanently frozen very fine sandy loam, permanently frozen material	PT MH, ML PT, ML SP-SM, ML, SM	A-8 A-7, A-4 A-8, A-4 A-1-b, A-4	--- 25-60 --- 15-35	--- NP-15 --- NP-10
29-Boreal sedge, organic depressions ----	0-7 7-17 17-28 28-60	Peat Mucky peat Mucky peat, peat, muck Silt, silt loam, very fine sandy loam, fine sandy loam	PT PT PT MH, ML	A-8 A-8 A-8 A-5, A-4	--- --- --- 20-50	--- --- --- NP-10
29-Boreal taiga, silty plains -----	0-15 15-20 20-28 28-60	Peat Silt loam, silt Silt loam, silt Silt loam, silt	PT CL, ML CL, ML, CL-ML CL, ML, CL-ML	A-8 A-4 A-4 A-4	--- 15-30 15-30 15-30	--- NP-10 NP-10 NP-10
R29UPB: 29-Boreal forest, silty eolian slopes-----	0-4 4-5 5-15 15-24 24-60	Moderately decomposed plant material Silt, silt loam Silt, silt loam Silt, silt loam Channery silt loam, gravelly silt loam, very stony silt loam	PT ML ML ML ML	A-8 A-4 A-4 A-4 A-4	--- 25-40 25-40 25-40 25-40	--- NP-10 NP-10 NP-10 NP-10
29-Boreal taiga, silty eolian slopes-----	0-10 10-33 33-60	Mucky peat, muck Silt loam, mucky silt Silt loam, silt	PT MH, ML CL, ML, CL-ML	A-8 A-4, A-7, A-5 A-4	--- 25-60 15-30	--- NP-15 NP-10
29-Subalpine woodland, silty colluvial slopes-----	0-10 10-12 12-19 19-35 35-57 57-59 59-60	Peat Peat, mucky peat Silt, silt loam Silt loam, silt Silt, silt loam Peat, muck Very gravelly silt loam, silt loam, gravelly silt loam	PT PT ML ML ML PT ML	A-8 A-8 A-4 A-4 A-4 A-8 A-4	--- --- 25-40 25-40 25-40 --- 25-40	--- --- NP-10 NP-10 NP-10 --- NP-10
R29UPC: 29-Boreal woodland, sandy terraces -----	0-5 5-8 8-12 12-30 30-60	Moderately decomposed plant material, slightly decomposed plant material Silt loam, very fine sandy loam, fine sandy loam Silt loam, very fine sandy loam, fine sandy loam Silt loam, very fine sandy loam, fine sandy loam Fine sand, gravelly loamy sand, loamy fine sand, sand	PT ML ML ML GC, GM, SC, SM	A-8 A-2-4, A-4 A-2-4, A-4 A-2-4, A-4 A-1-a, A-2-4	--- 20-30 20-30 20-30 10-20	--- NP-5 NP-5 NP-5 NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R29UPC: 29-Boreal forest, sandy terraces -----	0-2	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	2-4	Fine sandy loam, very fine sandy loam, silt loam	ML	A-2-4, A-4	20-30	NP-5
	4-6	Fine sandy loam, very fine sandy loam, silt loam	ML	A-2-4, A-4	20-30	NP-5
	6-22	Silt loam	ML	A-4	25-35	NP-10
	22-50	Silt loam, very fine sandy loam, fine sandy loam	ML	A-2-4, A-4	20-30	NP-5
	50-60	Fine sand, loamy fine sand, loamy sand, sand	SC, SM	A-2	10-20	NP-10
R29WAA: 29-Water-----	---	---	---	---	---	---
R30FPA: 30-Boreal forest, gravelly flood plains-----	0-4	Highly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-13	Fine sandy loam, loamy fine sand, silt loam	CL-ML, SM, ML	A-4	15-35	NP-10
	13-25	Silt loam, fine sandy loam	SC-SM, SM, ML	A-4	15-35	NP-10
	25-39	Stratified sand to fine sandy loam to silt loam	ML, SM	A-2, A-4	15-30	NP-5
	39-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand	GW, GP	A-1	0-14	NP
30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-3	Silt, silt loam, very fine sandy loam	SM, ML	A-4	30-40	NP-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	SP-SM, ML	A-2, A-4	30-40	NP-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	SM, ML	A-4	30-40	NP-10
30-Boreal scrub, gravelly flood plains-----	0-1	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	1-4	Stratified sand to fine sandy loam to silt loam, loamy fine sand	SP-SM	A-3	0-5	NP-5
	4-47	Stratified fine sand to gravelly sand, stratified extremely gravelly sand to silt loam, stratified very gravelly sand to very gravelly loamy fine sand	GW	A-1	0-15	NP-5
	47-60	Stratified extremely gravelly coarse sand to very gravelly loamy sand, stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam	GP, SP-SM	A-1, A-2	0-15	NP-5
30-Boreal scrub, silty terraces -----	0-4	Peat	PT	A-8	---	---
	4-7	Silt, silt loam	ML	A-4	25-40	NP-10
	7-9	Peat, muck	PT	A-8	---	---
	9-13	Silt, silt loam	ML	A-4	25-40	NP-10
	13-23	Silt loam, silt	ML	A-4	25-40	NP-10
	23-60	Silt loam, silt	ML	A-4	25-40	NP-10
R30HIA: 30-Boreal forest, loamy eolian slopes-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
<b>R30HIA:</b>						
30-Boreal taiga, loamy eolian slopes-----	0-8	Mucky peat, peat	PT	A-8	---	---
	8-11	Muck, peat, mucky peat	PT	A-8	---	---
	11-16	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	16-31	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
30-Boreal scrub, organic depressions ----	0-39	Muck, peat, mucky peat	PT	A-8	---	---
	39-47	Mucky peat, peat	PT	A-8	---	---
	47-60	Muck, peat, mucky peat	PT	A-8	---	---
<b>R30HID:</b>						
30-Boreal forest, silty colluvial slopes-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-12	Silt, cobbly silt loam	ML	A-4	25-40	NP-10
	12-20	Very cobbly loam, cobbly silt loam			25-35	NP-10
	20-60	Very cobbly loam, cobbly silt loam			25-35	NP-10
30-Boreal forest, silty eolian slopes, rocky-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-5	Silt, silt loam	ML	A-4	25-40	NP-10
	5-15	Silt, silt loam	ML	A-4	25-40	NP-10
	15-24	Silt, silt loam	ML	A-4	25-40	NP-10
	24-60	Channery silt loam, gravelly silt loam, very stony silt loam	ML	A-4	25-40	NP-10
30-Subalpine woodland, silty colluvial slopes-----	0-10	Peat	PT	A-8	---	---
	10-12	Peat, mucky peat	PT	A-8	---	---
	12-19	Silt, silt loam	ML	A-4	25-40	NP-10
	19-35	Silt loam, silt	ML	A-4	25-40	NP-10
	35-57	Silt, silt loam	ML	A-4	25-40	NP-10
	57-59	Peat, muck	PT	A-8	---	---
	59-60	Very gravelly silt loam, silt loam, gravelly silt loam	ML	A-4	25-40	NP-10
<b>R30MTA:</b>						
30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-5	Silt, silt loam	ML	A-4	25-40	NP-10
	5-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-30	Silt, silt loam	ML	A-4	25-40	NP-10
	30-60	Silt, silt loam	ML	A-4	25-40	NP-10
30-Boreal forest, loamy eolian slopes-----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10
30-Boreal woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	SM, ML	A-1-b, A-4	25-40	NP-10
	8-13	Very channery fine sandy loam			25-35	NP-10
	13-24	Extremely channery fine sandy loam			16-27	1-6
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	ML, GM	A-1-b, A-4, A-2-4	25-40	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
R30MTB:						
30-Boreal taiga, loamy colluvial slopes-----	0-5	Peat	PT	A-8	---	---
	5-13	Muck	PT	A-8	---	---
	13-16	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	SM, ML	A-4	0-48	NP-9
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam			---	---
30-Boreal forest, gravelly colluvial slopes	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	GP-GM, ML	A-1, A-5, A-4	0-48	NP-9
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	GP-GM, ML, SM	A-5, A-1	0-48	NP-9
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	GP-GM, GM, SM	A-5, A-1	0-48	NP-9
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	GP, GM	A-1, A-7-5, A-2	0-55	NP-11
30-Boreal scrub, loamy eolian slopes-----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-3	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	3-6	Mucky very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	6-32	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	32-60	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
30-Subalpine forest, gravelly residual slopes-----	0-4	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	4-7	Very cobbly silt loam, very gravelly silt loam	GM	A-1-b, A-4	25-40	NP-10
	7-14	Extremely cobbly silt loam, gravelly silt loam, gravelly very fine sandy loam, very gravelly silt loam	ML, GM	A-1-a, A-4, A-1-b	25-40	NP-10
	14-60	Gravelly sandy loam, very gravelly silt loam, extremely gravelly silt loam	ML, GM	A-4, A-1-a	25-40	NP-10
30-Subalpine scrub, loamy colluvial slopes--	0-3	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-5	Mucky silt loam, silt loam	ML	A-5, A-4	30-50	NP-10
	5-10	Very fine sandy loam, silt loam	SM, ML	A-5, A-4	30-50	NP-10
	10-20	Gravelly silt loam, silt loam, very gravelly silt loam	ML, GM	A-1-b, A-2-4	25-35	NP-10
	20-60	Gravelly silt loam, silt loam, very gravelly silt loam	ML, GM	A-1-b, A-4	25-35	NP-10



Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R30MTD: 30-Subalpine woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	6-7	Very gravelly silt loam, silt loam, gravelly very fine sandy loam	ML	A-4	25-40	NP-10
	7-15	Gravelly silt loam, very gravelly very fine sandy loam, gravelly very fine sandy loam	GW-GM, ML, GM	A-1-a, A-4, A-2-4	25-40	NP-10
	15-22	Extremely cobbly very fine sandy loam, very gravelly silt loam, gravelly silt loam	GW-GM, GM	A-1-a, A-4, A-1-b	25-40	NP-10
	22-60	Extremely cobbly very fine sandy loam, very gravelly silt loam, extremely gravelly silt loam	GW-GM, GM	A-1-a, A-4, A-1-b	25-40	NP-10
30-Alpine dwarf scrub, gravelly till slopes-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-11	Very gravelly silt loam, highly organic fine sandy loam, gravelly highly organic silt loam	OL, GM	A-1-b, A-4	25-40	NP-10
	11-21	Cobbly loam, very stony sandy loam, cobbly silt loam	SM, GM	A-4, A-2-4	25-35	NP-10
	21-31	Very cobbly loam, very stony sandy loam, cobbly silt loam	SM, GM	A-4, A-2-4	25-35	NP-10
	31-60	Very cobbly loam, gravelly silt loam, very stony silt loam, very cobbly silt loam	ML, GM	A-1-a, A-4, A-2-4	25-35	NP-10
R30MTE: 30-Alpine herbaceous, gravelly colluvial slopes-----	0-1	Highly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	1-4	Gravelly silt loam, silt loam	GM, ML	A-4	25-35	NP-10
	4-20	Very cobbly loam, very gravelly sandy loam, very gravelly silt loam	SM, GM	A-4, A-2-4	25-35	NP-10
	20-28	Very gravelly sandy loam, very gravelly silt loam	SM, GM	A-1-a, A-4, A-2-4	25-35	NP-10
	28-60	Bedrock			---	---
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	ML	A-4	0-50	NP-9
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	GM, SM	A-2	0-48	NP-9
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	GM	A-2	0-55	NP-11
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0-29	NP-10
30-Subalpine woodland, loamy colluvial slopes-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-10	Gravelly fine sandy loam, very fine sandy loam, silt loam	SM, ML	A-2-4, A-4	25-40	NP-10
	10-12	Gravelly silt loam, silt loam, very fine sandy loam	ML	A-4	20-30	NP-5
	12-24	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	GM, SM	A-2, A-1	0-29	NP-10
	24-60	Bedrock			---	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
<b>R30UPA:</b>						
30-Boreal taiga, silty plains -----	0-9	Peat	PT	A-8	---	---
	9-15	Mucky peat	PT	A-8	---	---
	15-19	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	19-35	Silt loam, silt	ML	A-7, A-4	25-50	NP-15
	35-60	Permanently frozen silt loam, permanently frozen silt			---	---
30-Subalpine woodland, loamy till slopes -----	0-7	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	7-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-17	Gravelly silt loam, silt, silt loam	ML	A-4	25-40	NP-10
	17-34	Very cobbly loam, very gravelly sandy loam, gravelly silt loam	SM, ML	A-2, A-1	25-35	NP-10
	34-60	Very cobbly loam, very gravelly sandy loam, very gravelly silt loam	GW-GM	A-2, A-1	25-35	NP-10
30-Subalpine sedge, organic depressions ----	0-39	Mucky peat, peat	PT	A-8	---	---
	39-60	Muck, peat, mucky peat	PT	A-8	---	---
<b>R30UPB:</b>						
30-Boreal forest, loamy eolian slopes -----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-6	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	6-8	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	8-20	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	20-37	Very fine sandy loam, silt loam	ML	A-4	20-40	NP-10
	37-60	Very gravelly silt loam, very gravelly loam		A-1, A-4, A-2	25-35	NP-10
30-Boreal scrub, loamy colluvial slopes -----	0-9	Slightly decomposed plant material	PT	A-8	---	---
	9-12	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	SM	A-4	0-48	NP-9
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	ML	A-4	0-55	NP-11
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	ML	A-4	25-35	NP-10
30-Boreal tussock-scrub, loamy plains ----	0-9	Peat	PT	A-8	---	---
	9-14	Mucky peat	PT	A-8	--	---
	14-19	Silt loam	ML	A-4	30-50	NP-10
	19-24	Silt loam	ML	A-4	30-50	NP-10
	24-60	Permanently frozen silt loam			--	---
30-Rock outcrop, rhyolite -----	--	--	--	--	--	---
<b>R30UPC:</b>						
30-Boreal forest, gravelly colluvial slopes -----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	PT	A-8	--	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	GP-GM, ML	A-1, A-5, A-4	0-48	NP-9
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	GP-GM, ML, SM	A-5, A-1	0-48	NP-9
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	GP-GM, GM, SM	A-5, A-1	0-48	NP-9
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	GP, GM	A-1, A-7-5, A-2	0-55	NP-11

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R30UPC: 30-Subalpine woodland, loamy till slopes-----	0-7	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	--	---
	7-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-17	Gravelly silt loam, silt, silt loam	ML	A-4	25-40	NP-10
	17-34	Very cobbly loam, very gravelly sandy loam, gravelly silt loam	SM, ML	A-2, A-1	25-35	NP-10
	34-60	Very cobbly loam, very gravelly sandy loam, very gravelly silt loam	GW-GM	A-2, A-1	25-35	NP-10
30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	PT	A-8	--	---
	2-5	Silt, silt loam	ML	A-4	25-40	NP-10
	5-11	Silt, silt loam	ML	A-4	25-40	NP-10
	11-30	Silt, silt loam	ML	A-4	25-40	NP-10
	30-60	Silt, silt loam	ML	A-4	25-40	NP-10
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	--	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	ML	A-4	0-50	NP-9
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	GM, SM	A-2	0-48	NP-9
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	GM	A-2	0-55	NP-11
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0-29	NP-10
R30UPD: 30-Boreal tussock scrub, loamy plains ----	0-9	Peat, mucky peat	PT	A-8	--	---
	9-14	Mucky peat, peat	PT	A-8	--	---
	14-19	Silt loam	ML	A-4	30-50	NP-10
	19-24	Silt loam	ML	A-4	30-50	NP-10
	24-60	Permanently frozen silt loam			--	---
30-Boreal dwarf scrub, silty plains -----	0-7	Mucky peat	PT	A-8	--	---
	7-9	Silt loam, mucky silt	CL, ML, CL-ML	A-4	15-30	NP-10
	9-18	Silt, highly decomposed plant material, silt loam, highly decomposed plant material	CL, ML, CL-ML	A-4	15-30	NP-10
	18-28	Silt, silt loam	CL, ML, CL-ML	A-4	15-30	NP-10
	28-60	Permanently frozen silt, permanently frozen silt loam		A-4	--	---
30-Boreal sedge, organic depressions ----	0-11	Mucky peat, peat	PT	A-8	--	---
	11-21	Muck, peat, mucky peat	PT	A-8	--	---
	21-60	Muck	PT	A-8	--	---
30-Boreal scrub, loamy terraces-----	0-16	Peat	PT	A-8	--	---
	16-25	Peat, mucky peat	PT	A-8	--	---
	25-28	Very fine sandy loam, silt loam	ML	A-5, A-4	30-50	NP-10
	28-43	Very fine sandy loam, silt loam	ML	A-5, A-4	30-50	NP-10
	43-60	Permanently frozen very fine sandy loam, permanently frozen silt loam	ML	A-4	--	---

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
R30UPE:						
30-Boreal tussock scrub, loamy plains -----	0-9	Peat	PT	A-8	--	---
	9-14	Mucky peat	PT	A-8	--	---
	14-19	Silt loam	ML	A-4	30-50	NP-10
	19-24	Silt loam	ML	A-4	30-50	NP-10
	24-60	Permanently frozen silt loam			--	---
30-Boreal taiga, loamy eolian slopes-----	0-8	Mucky peat, peat	PT	A-8	--	---
	8-11	Muck, peat, mucky peat	PT	A-8	--	---
	11-16	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	16-31	Very fine sandy loam, silt loam	SM, ML	A-4	20-40	NP-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam			--	---
R30WAA:						
30-Wate-----	--	--	--	--	--	---
R37MTA:						
37-Alpine dwarf scrub, gravelly colluvial slopes	0-2	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	--	---
	2-9	Gravelly silt loam, silt loam	ML	A-5, A-4	30-50	NP-10
	9-15	Very cobbly loam, gravelly loam, very gravelly loam, very channery loam	GM	A-1-b, A-4, A-2-4	25-35	NP-10
	15-26	Very cobbly loam, gravelly loam, very gravelly loam, very channery loam	GM	A-1-b, A-4, A-2-4	25-35	NP-10
	26-50	Extremely cobbly loam, very gravelly sandy loam, very cobbly loam	GM	A-1-a, A-4, A-2-4	25-35	NP-10
	50-60	Cobbles			--	---
37-Alpine scrub, loamy colluvial slopes-----	0-1	Moderately decomposed plant material, peat, slightly decomposed plant material	PT	A-8	--	---
	1-3	Gravelly silt loam, gravelly very fine sandy loam, mucky silt loam, silt loam	MH, ML	A-4, A-5	40-60	NP-5
	3-6	Gravelly silt loam, loam, silt loam	ML	A-4, A-5	35-50	NP-5
	6-18	Gravelly silt loam, mucky silt loam, mixed loam	ML	A-4, A-5	35-50	NP-5
	18-41	Gravelly very fine sandy loam, silt loam, very fine sandy loam, loam	SM, ML	A-4	25-40	NP-10
	41-60	Gravelly silt loam, very gravelly silt loam, very cobbly loam	GM	A-1-a, A-4	25-40	NP-10
37-Subalpine scrub, gravelly colluvial slopes-----	0-2	Very channery moderately decomposed plant material, slightly decomposed plant material, channery moderately decomposed plant material	PT	A-8	--	---
	2-6	Cobbly loam, very channery silt loam, extremely gravelly loam, extremely gravelly mucky peat	GM, ML	A-4	25-35	NP-10
	6-16	Extremely channery silt loam, extremely gravelly fine sandy loam, gravelly loam	SM, GM	A-4, A-2-4	25-35	NP-10
	16-60	Very cobbly loam, extremely channery silt loam, extremely gravelly silt loam	GP-GM, SM, GM	A-1-a, A-4, A-2-4	25-35	NP-10
37-Subalpine woodland, loamy till slopes-----	0-7	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	--	---
	7-11	Silt, silt loam	ML	A-5, A-4	30-50	NP-10
	11-17	Gravelly silt loam, silt, silt loam	ML	A-5, A-4	30-50	NP-10
	17-34	Very cobbly loam, very gravelly sandy loam, gravelly silt loam	GM, SM	A-4, A-2-4	25-35	NP-10
	34-60	Very cobbly loam, very channery sandy loam, very gravelly silt loam	GM	A-2-4, A-4	25-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R38FPA: 38-Boreal woodland, gravelly terraces-----	0-7	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	--	---
	7-8	Silt loam	SM, ML	A-4	25-35	NP-10
	8-16	Silt loam	SM, ML	A-5, A-4	35-50	NP-5
	16-17	Silt loam	SM, ML	A-4	25-35	NP-10
	17-22	Highly organic fine sandy loam, highly organic loam, stratified fine sand to highly organic silt	SP-SM, ML	A-3, A-5, A-4	5-45	NP-10
	22-28	Extremely gravelly coarse sand	SC-SM, GW-GM	A-1-b, A-1-a	0-10	NP-5
	28-60	Extremely gravelly coarse sand	SC-SM, GW-GM	A-1-b, A-1-a	0-10	NP-5
38-Tundra scrub, gravelly terraces-----	0-2	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	--	---
	2-4	Silt loam	GM, ML	A-4	25-35	NP-10
	4-13	Fine sandy loam, gravelly loam, stratified very fine sand to silt	SM	A-2-4, A-5, A-4	0-45	NP-10
	13-20	Very gravelly loam, gravelly loam	SM, GM	A-1-b, A-4	30-40	NP-5
	20-60	Extremely gravelly sand	GW-GC, GP, GP-GM	A-1-a	0-10	NP-5
38-Boreal forest, silty flood plains  2-6---	0-2	Moderately decomposed plant material	PT	A-8	--	---
	2-6	Stratified silt loam to highly decomposed plant material	ML	A-4	30-40	NP-10
	6-37	Stratified silt loam to silt	ML	A-4	25-35	NP-10
	37-55	Stratified silt loam to slightly decomposed plant material	ML	A-4	30-40	NP-10
	55-60	Stratified fine sand to silt, stratified silt to silt loam	ML	A-4	15-35	NP-10
38-Boreal scrub, gravelly flood plains-----	0-4	Stratified very gravelly sand to fine sand, stratified sand to fine sandy loam to silt loam, loamy fine sand	SP-SM, CL, SM	A-3, A-4, A-2-4	15-30	NP-10
	4-47	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, very gravelly loamy coarse sand	GW-GC, GP, GP-GM	A-1-a	0-15	NP-5
	47-60	Stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam	SC-SM, GP, GM	A-2-4, A-1-a	0-15	NP-5
R38FPB: 38-Boreal grass, loamy flood plains-----	0-4	Mucky peat	PT	A-8	--	---
	4-16	Silt loam	ML	A-4	25-35	NP-10
	16-60	Silt loam	ML	A-4	25-35	NP-10
38-Boreal scrub, silty flood plains-----	0-10	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	PT	A-8	--	---
	10-22	Silt, silt loam	ML	A-4	15-35	NP-10
	22-60	Silt, silt loam	ML	A-4	15-35	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
R38PLA: 38-Boreal forest, silty plains-----	0-5	Moderately decomposed plant material	PT	A-8	--	---
	5-7	Silt loam, silt	CL, ML, CL-ML	A-4	15-30	NP-10
	7-17	Silt loam, silt	CL, SM, CL-ML	A-4	15-30	NP-10
	17-38	Silt loam, very fine sandy loam, silt	ML, SM, CL-ML	A-4	15-35	NP-10
	38-60	Silt loam, silt	ML, CL-ML	A-4	15-35	NP-10
38-Boreal scrub- sedge, loamy terraces-----	0-7	Peat	PT	A-8	--	---
	7-14	Peat, mucky peat	PT	A-8	--	---
	14-18	Mucky silt, silt loam, very fine sandy loam	MH, ML	A-5, A-4	25-50	NP-10
	18-31	Silt, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	15-30	NP-10
	31-60	Permanently frozen silt			--	---
38-Boreal woodland, silty plains-----	0-4	Peat, mucky peat	PT	A-8	--	---
	4-12	Silt loam, mucky silt	MH, ML	A-4, A-7	25-60	NP-15
	12-24	Stratified silt to muck	CL, ML	A-6, A-4	30-40	5-15
	24-60	Permanently frozen silt, permanently frozen silt loam			--	---
R38PLB: 38-Tundra scrub, silty plains-----	0-3	Peat	PT	A-8	--	---
	3-9	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	9-24	Stratified silt to muck	ML	A-4	25-40	NP-10
	24-60	Permanently frozen silt loam, permanently frozen silt		A-4	--	---
38-Boreal woodland, loamy eolian slopes-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	--	---
	4-8	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	8-11	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	11-19	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	19-60	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
38-Tundra dwarf scrub, silty plains-----	0-9	Slightly decomposed plant material	PT	A-8	--	---
	9-12	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	12-30	Stratified silt to muck	ML	A-4	25-40	NP-10
	30-60	Permanently frozen silt loam, permanently frozen silt		A-4	--	---
R38PLC: 38-Water-----	--	--	--	--	--	---
38-Tundra dwarf scrub, organic plains-----	0-6	Peat	PT	A-8	--	---
	6-31	Mucky peat	PT	A-8	--	---
	31-60	Permanently frozen silt, permanently frozen silt loam			--	---
38-Tundra sedge, organic depressions----	0-39	Peat	PT	A-8	--	---
	39-49	Silt loam, sandy loam	SM, ML	A-5, A-4	20-45	NP-10
	49-60	Silt loam	ML	A-5, A-4	25-45	NP-10

Table 7. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
R38UPB:						
38-Boreal scrub, loamy eolian slopes-----	0-15	Mucky peat, peat	PT	A-8	--	---
	15-28	Very fine sandy loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	28-42	Very fine sandy loam	MH, SM, ML	A-2-4, A-5, A-4	30-50	NP-10
	42-60	Permanently frozen silt, permanently frozen silt loam		A-4	--	---
38-Tundra tussock scrub, organic eolian slopes-----	0-24	Mucky peat, peat	PT	A-8	--	---
	24-31	Silt loam, silt	ML	A-4	15-35	NP-10
	31-60	Permanently frozen silt loam, permanently frozen silt		A-4	--	---
38-Boreal scrub, loamy colluvial slopes, Yukon- Kuskokwim Coastal Plain-----	0-7	Slightly decomposed plant material	PT	A-8	--	---
	7-12	Fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam			0-48	NP-9
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam			0-55	NP-11
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam			25-35	NP-10
38-Tundra scrub, silty plains -----	0-3	Peat	PT	A-8	--	---
	3-9	Silt loam, silt	CL, ML	A-4	15-30	NP-10
	9-24	Stratified silt to muck	ML	A-4	25-40	NP-10
	24-60	Permanently frozen silt loam, permanently frozen silt		A-4	--	---
R38WAA:						
38-Water-----	--	--	--	--	--	---

**Table 8. Engineering Particle Size Data**

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

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
29DP03: 29-Noonku family, ponded -----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
29FP01: 29-Fubar family, frequent flooding -----	0-6	Stratified sand to loamy fine sand	0	0	100	100	85-90	10-40	75-95	5-25	0-5
	6-11	Gravelly sand, fine sand, loamy fine sand	0	0	55-100	40-100	30-75	5-35	65-100	0-25	0-10
	11-60	Stratified extremely gravelly sand to sandy loam	0	15-25	30-60	20-50	5-15	0-5	75-100	0-15	0-5
29-Noonku family, frequent flooding -----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
29FP02: 29-Salchaket family----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15
29FP03: 29-Chichantna family--	0-18	Peat	0	0	---	---	---	---	---	---	---
	18-60	Mucky silt loam, muck	0	0	---	---	---	---	---	---	---
29VL02: 29-Urban land -----	---	---	---	---	---	---	---	---	---	---	---
30DP01: 30-Holitnafamily -----	0-43	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	43-60	Silt	0	0	100	100	90-100	80-90	0-20	65-90	4-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30DP03: 30-Oskawalik family ----	0-5	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	0	0	100	100	80-95	40-90	0-45	50-95	3-10
	12-30	Silt loam	0	0	100	100	80-95	40-90	15-45	50-80	3-10
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	0	0-5	35-100	30-100	15-100	15-100	15-45	50-80	3-10
30ES01: 30-Waterfall family ----	0-3	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-8	Very channery silt loam, extremely gravelly loam, very gravelly silt loam	0	0-20	25-65	10-45	5-40	5-40	15-50	35-80	0-15
	8-19	Very cobbly loam, gravelly silt loam, very gravelly silt loam, extremely gravelly silt loam	0	0-45	30-80	10-70	5-65	5-60	15-50	35-80	3-15
	19-60	Bedrock	---	---	---	---	---	---	---	---	---
30-Rock outcrop -----	---	---	---	---	---	---	---	---	---	---	---
30-Sleetmute family ----	0-6	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	0	0-25	50-85	20-80	20-80	10-70	15-75	15-80	3-10
	8-13	Very channery fine sandy loam	0	15-30	50-70	20-55	20-50	5-30	45-75	15-45	3-10
	13-24	Extremely channery fine sandy loam	0	10-25	40-50	10-20	10-20	5-10	45-75	15-45	3-10
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	0	10-25	40-80	10-70	10-70	5-65	15-45	50-80	3-10
30FP01: 30-Takotna family ----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30FP01: 30-Itulilikfamily -----	0-5	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	0	0	100	100	80-95	40-90	0-45	50-95	3-10
	12-30	Silt loam	0	0	100	100	80-95	40-90	15-45	50-80	3-10
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	0	0-5	35-100	30-100	15-100	15-100	15-45	50-80	3-10
30FP02: 30-Takotna family -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
30FP03: 30-Takotna family -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
30-Gerstle family -----	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-7	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	7-16	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	16-47	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	47-60	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
30HI02: 30-Uknavikfamily -----	0-5	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	0	0	100	100	80-95	40-90	0-45	50-95	3-10
	12-30	Silt loam	0	0	100	100	80-95	40-90	15-45	50-80	3-10
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	0	0-5	35-100	30-100	15-100	15-100	15-45	50-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30HI02: 30-Goldstream family -	0-5	Peat	0	0	---	---	---	---	---	---	---
	5-13	Muck	0	0	---	---	---	---	---	---	---
	13-16	Fine sandy loam, silt loam	0	0	85-100	80-100	75-100	40-90	15-75	15-80	3-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
30-Holitnafamily -----	0-43	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	43-60	Silt	0	0	100	100	90-100	80-90	0-20	65-90	4-10
30KA02: 30-Kaviriuq-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-3	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	3-6	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	6-15	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	15-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30KA08: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30-Kaviriuq-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-3	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	3-6	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	6-15	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	15-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30MA01: 30-Maquulluq -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	8-12	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	12-30	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	0	0	75-100	60-100	40-75	5-30	75-100	0-25	0-10
30NU02: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
30NU03: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30NU04: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30NU05: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30NU06: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30NU07: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30-Sleetmute family, hillslopes-----	0-9	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Fine sandy loam, silt loam	0	0	90-100	85-100	45-100	45-100	10-65	30-80	0-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	0	0-40	50-100	20-100	20-100	10-90	15-75	15-80	3-15
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	0	10-40	50-80	20-70	20-70	10-60	15-75	15-80	3-15
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	0	10-50	40-80	10-70	10-70	5-60	15-75	15-80	3-15

Table 8. Engineering Partial Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30NU08: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30-Sleetmute family, hillslope -----	0-9	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Fine sandy loam, silt loam	0	0	90-100	85-100	45-100	45-100	10-65	30-80	0-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	0	0-40	50-100	20-100	20-100	10-90	15-75	15-80	3-15
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	0	10-40	50-80	20-70	20-70	10-60	15-75	15-80	3-15
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	0	10-50	40-80	10-70	10-70	5-60	15-75	15-80	3-15
30NU12: 30-Nunaniq -----	0-2	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-7	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	7-14	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	10-75	15-80	3-10
	14-35	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	1-10
	35-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30-Teggiuq-----	0-8	Peat	0	0	---	---	---	---	---	---	---
	8-10	Mucky peat	0	0	---	---	---	---	---	---	---
	10-22	Silt, very fine sandy loam, silt loam	0	0	100	95-100	50-100	30-100	5-50	45-90	0-10
	22-30	Mucky silt loam, silt, silt loam	0	0	100	100	90-100	65-90	5-20	65-90	0-10
	30-46	Silt, silt loam	0	0	100	95-100	50-100	50-100	0-40	50-100	0-15
	46-60	Permanently frozen material	---	---	100	100	100	95-100	5-65	60-100	0-10
30-Kaviriuq-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-3	Silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	3-6	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	6-15	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
	15-60	Very fine sandy loam, silt loam	0	0	100	95-100	95-100	30-100	15-75	15-80	3-10
30OT01: 30-Aleknagik family----	0-1	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	3-6	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	6-32	Very fine sandy loam, silt loam	0	0	100	100	100	50-90	15-75	15-80	3-10
	32-60	Very fine sandy loam, silt loam	0	0	100	100	100	50-90	15-75	15-80	3-10
30-Bonasilafamily -----	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-7	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	7-16	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	16-47	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	47-60	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30OT02: 30-Uknavikfamily -----	0-5	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	0	0	100	90-100	80-95	40-90	0-45	50-95	3-10
	12-30	Silt loam	0	0	100	100	80-95	40-90	15-45	50-80	3-10
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	0	0-5	35-100	30-100	15-100	15-100	15-45	50-80	3-10
30-Noonku family-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-28	Fine sand, stratified silt loam to coarse sand	0	0	95-100	90-100	40-90	10-85	15-100	0-80	0-10
	28-60	Gravelly loamy coarse sand, extremely gravelly sand, stratified very gravelly coarse sand to gravelly silt loam	0	0-10	45-80	15-70	5-65	2-60	15-100	0-80	0-10
30SL01: 30-Sleetmute -----	0-3	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-6	Very channery silt loam, extremely gravelly loam, extremely gravelly silt loam	0	0-15	40-65	10-45	5-40	5-40	15-50	35-80	0-15
	6-19	Gravelly loam, extremely gravelly fine sandy loam, very gravelly silt loam	0	0-25	40-80	10-70	5-65	5-65	15-75	15-80	3-15
	19-60	Very cobbly loam, extremely channery silt loam, very gravelly silt loam, gravelly silt loam	0	0-45	40-80	10-70	5-65	5-60	15-50	35-80	3-15
30TE01: 30-Liscum family -----	0-6	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	6-15	Mucky peat	0	0	---	---	---	---	---	---	---
	15-26	Silt, silt loam, very fine sandy loam	0	0	100	100	85-100	75-95	15-60	35-85	0-15
	26-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	0	0	100	100	80-100	50-90	15-85	10-80	0-10
30-Hufman family -----	0-53	Peat	0	0	---	---	---	---	---	---	---
	53-60	Fine sand, gravelly sand, silt, silt loam	0	0	70-85	55-75	30-45	10-20	10-95	2-90	0-10
30TQ01: 30-Teggiuq-----	0-8	Peat	0	0	---	---	---	---	---	---	---
	8-10	Mucky peat	0	0	---	---	---	---	---	---	---
	10-22	Silt, very fine sandy loam, silt loam	0	0	100	95-100	50-100	30-100	5-50	45-90	0-10
	22-30	Mucky silt loam, silt, silt loam	0	0	100	100	90-100	65-90	5-20	65-90	0-10
	30-46	Silt, silt loam	0	0	100	95-100	50-100	50-100	0-40	50-100	0-15
	46-60	Permanently frozen material	---	---	100	100	100	95-100	5-65	60-100	0-10

Table 8. Engineering Partial Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
30TQ02: 30-Teggiuq-----	0-8	Peat	0	0	---	---	---	---	---	---	---
	8-10	Mucky peat	0	0	---	---	---	---	---	---	---
	10-22	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	22-30	Mucky silt loam, silt, silt loam	0	0	100	100	90-100	65-90	5-20	65-90	0-10
	30-46	Silt, silt loam	0	0	100	100	50-100	50-100	0-40	50-100	0-15
	46-60	Permanently frozen material	---	---	100	100	100	95-100	5-65	60-100	0-10
30TQ03: 30-Teggiuq-----	0-8	Peat	0	0	---	---	---	---	---	---	---
	8-10	Mucky peat	0	0	---	---	---	---	---	---	---
	10-22	Silt, very fine sandy loam, silt loam	0	0	100	95-100	50-100	30-100	5-50	45-90	0-10
	22-30	Mucky silt loam, silt, silt loam	0	0	100	100	90-100	65-90	5-20	65-90	0-10
	30-46	Silt, silt loam	0	0	100	95-100	50-100	50-100	0-40	50-100	0-15
	46-60	Permanently frozen material	---	---	100	100	100	95-100	5-65	60-100	0-10
30VL01: 30-Urban land-----	---	---	---	---	---	---	---	---	---	---	---
30VL02: 30-Urban land-----	---	---	---	---	---	---	---	---	---	---	---
38DP01: 38-Teggiuq family-----	0-24	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	24-31	Silt loam, silt	0	0	100	100	90-100	80-90	5-25	65-90	4-10
	31-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	95-100	95-100	5-25	65-90	4-10
38DP03: 38-Uknavikfamily-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
38ES01: 38-Uknavikfamily, steep-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
38FP01: 38-Salchaket family----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	95-100	50-100	30-100	5-60	30-90	0-10
	3-28	Silt loam, stratified muck to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to moderately decomposed plant material	0	0	100	95-100	50-90	10-80	10-80	10-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam, very fine sandy loam, stratified silt loam to gravelly sandy loam	0	0	60-100	60-100	50-90	10-80	25-80	10-65	0-15
38-Happy family -----	0-6	Peat, slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	6-11	Silt, very fine sandy loam, silt loam	0	0	100	95-100	50-100	30-100	5-75	15-90	0-10
	11-22	Silt loam, stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, very fine sandy loam, stratified muck to very fine sandy loam	0	0	100	95-100	50-90	10-80	15-85	10-80	0-10
	22-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen very fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	0	0	80-100	75-100	50-90	10-80	25-80	15-65	0-15
38FP02: 38-Uknavikfamily -----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
38-Karheen family-----	0-7	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	7-22	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	22-60	Mucky peat, peat, muck	0	0	---	---	---	---	---	---	---
38FP03: 38-Takotna family, frequent flooding-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
38-Noonku family, frequent flooding-----	0-7	Highly decomposed plant material, mixed silt, silt loam, moderately decomposed plant material	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
38TE01: 38-Teggiuq family-----	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-14	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	18-31	Silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	31-60	Permanently frozen silt	0	0	100	100	100	95-100	0-15	80-95	0-10
38TE03: 38-Inmachuk family----	0-24	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	24-31	Silt loam, silt	0	0	100	100	90-100	80-90	5-25	65-90	4-10
	31-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	95-100	95-100	5-25	65-90	4-10
38-Teggiuq family-----	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-14	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	18-31	Silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	31-60	Permanently frozen silt	0	0	100	100	100	95-100	0-15	80-95	0-10
38UL01: 38-Ulesqiirluni-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified gravelly fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15
38UL02: 38-Ulesqiirluni-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified gravelly fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15
38-Uknavikfamily-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
38UT01: 38-Ulet -----	In.										
	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Silt loam	0	0	100	100	95-100	65-85	10-30	60-75	0-10
	6-9	Stratified sand to very gravelly silt loam	0	0	80-100	20-100	5-85	2-75	25-95	5-70	0-5
	9-60	Stratified gravelly sand to fine sand to silt	0	0	65-100	35-100	30-100	5-95	5-95	5-90	0-15
38VL02: 38-Urban land -----	---	---	---	---	---	---	---	---	---	---	---
D29FPA: 29-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15
29-Boreal scrub, loamy flood plains, frequent flooding -----	0-10	Stratified silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	39-60	Stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
D29FPB: 29-Boreal forest, sandy flood plains -----	0-2	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-10	Fine sandy loam	0	0	100	100	90-100	45-65	45-75	15-45	3-10
	10-20	Fine sandy loam, loamy fine sand, silt loam	0	0	100	100	85-90	20-80	20-85	10-70	3-10
	20-60	Gravelly loamy fine sand, stratified sand to fine sandy loam	0	0	65-100	65-100	5-50	0-20	75-95	0-25	0-5
29-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
D29FPC:											
29-Boreal grass, loamy flood plains -----	0-2	Mucky peat	0	0	---	---	---	---	---	---	---
	2-9	Silt loam	0	0	100	100	85-100	70-95	15-45	50-80	3-10
	9-18	Silt loam	0	0	100	100	85-100	70-95	15-45	50-80	3-10
	18-60	Stratified silt loam to very fine sand	0	0	100	100	85-100	45-95	15-90	7-80	3-10
29-Boreal scrub, loamy depressions ----	0-7	Highly decomposed plant material, mixed silt, stratified silt loam to moderately decomposed plant material	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
D29FPE:											
29-Boreal scrub, loamy flood plains, frequent flooding-----	0-10	Stratified silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	39-60	Stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
29-Boreal forest, loamy flood plains, frequent flooding-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15
D29FPG:											
29-Boreal grass, organic depressions --	0-53	Peat	0	0	---	---	---	---	---	---	---
	53-60	Fine sand, gravelly sand, silt, silt loam	0	0	70-85	55-75	30-45	10-20	10-95	2-90	0-10
29-Boreal scrub, loamy depressions ----	0-7	Highly decomposed plant material, mixed silt, stratified silt loam to moderately decomposed plant material	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	7-31	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15
	31-60	Fine sandy loam, silt, silt loam, very fine sandy loam	0	0	100	100	50-100	30-100	15-60	35-85	0-15



Table 8. Engineering Partial Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
D30FAC: 30-Boreal forest, loamy fans-----	0-5	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-9	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Mucky silt, stratified silt loam to mucky peat	0	0	95-100	80-100	80-95	40-90	0-45	50-95	3-10
	12-30	Silt loam	0	0	95-100	80-100	80-95	40-90	15-45	50-80	3-10
	30-60	Gravelly silt loam, very gravelly silt loam, silt loam	0	0-5	35-100	30-100	15-100	15-90	15-45	50-80	3-10
30-Boreal scrub, loamy fans-----	0-8	Peat	0	0	---	---	---	---	---	---	---
	8-15	Mucky peat	0	0	---	---	---	---	---	---	---
	15-17	Mucky silt loam, stratified silt loam to mucky peat	0	0	85-100	80-100	75-100	40-90	15-45	50-80	3-10
	17-22	Silt loam, gravelly silt loam	0	0	75-100	65-100	60-100	30-90	15-45	50-80	3-10
	22-60	Permanently frozen gravelly silt loam, permanently frozen silt loam, permanently frozen very gravelly silt loam	0	0	55-100	35-100	30-100	20-90	15-45	50-80	3-10
30-Boreal forest, loamy terraces -----	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-7	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	7-16	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	20-80	3-10
	16-47	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	47-60	Silt loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
30-Boreal sedge, loamy depressions, occasional flooding ---	0-1	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	1-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	10-37	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	0	0	100	100	95-100	40-90	15-80	10-80	1-10
D30FAD: 30-Boreal scrub, gravelly drainages, outwash fan -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-28	Fine sand, stratified silt loam to coarse sand	0	0	95-100	90-100	40-90	10-85	15-100	0-80	0-10
	28-60	Gravelly loamy coarse sand, extremely gravelly sand, stratified very gravelly coarse sand to gravelly silt loam	0	0-10	45-80	15-70	5-65	2-60	15-100	0-80	0-10
30-Boreal scrub, loamy drainages, outwash fan -----	0-8	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	8-10	Mucky very fine sandy loam, silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
	10-25	Silt loam, loamy sand	0	0	100	100	60-95	20-85	15-90	10-80	0-10
	25-60	Very gravelly fine sandy loam, stratified very gravelly coarse sand to gravelly silt loam, stratified silt loam to gravelly loamy coarse sand	0	0-10	60-80	40-70	20-65	5-60	15-100	0-80	0-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
D30FPA: 30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
30-Boreal forest, sandy flood plains -----	0-1	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Fine sandy loam	0	0	100	100	90-100	45-65	45-75	15-45	3-10
	3-41	Stratified sand to highly decomposed plant material	0	0	100	100	20-50	5-20	85-100	0-15	0-5
	41-60	Gravelly loamy fine sand, stratified sand to fine sandy loam	0	0	65-100	45-100	30-90	5-60	45-100	0-45	0-10
D30FPD: 30-Boreal sedge, loamy depressions -----	0-1	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	1-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	10-37	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	0	0	100	100	95-100	40-90	15-80	10-80	1-10
30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
30-Water-----	---	---	---	---	---	---	---	---	---	---	---
D30FPE: 30-Boreal scrub, gravelly flood plains, frequent flooding-----	0-1	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	1-4	Stratified sand to fine sandy loam to silt loam, loamy fine sand	0	0	95-100	90-100	80-100	5-85	15-100	0-80	0-10
	4-47	Stratified fine sand to gravelly sand, stratified extremely gravelly sand to silt loam, stratified very gravelly sand to very gravelly loamy fine sand	0	0-10	45-80	15-70	10-65	1-60	15-100	0-80	0-10
	47-60	Stratified extremely gravelly coarse sand to very gravelly loamy sand, stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam	0	0-10	45-80	15-70	10-65	2-45	45-100	0-45	0-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
D30FPE: 30-Boreal scrub, silty flood plains, frequent flooding-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	10-22	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
	22-60	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
D30FPF: 30-Boreal scrub, silty flood plains-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	10-22	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
	22-60	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
30-Boreal forest, loamy flood plains-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
D30FPH: 30-Boreal scrub, loamy flood plains-----	0-6	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	6-11	Silt, very fine sandy loam, silt loam	0	0	100	100	95-100	50-100	0-75	15-95	3-10
	11-18	Stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, stratified very fine sandy loam to silt loam	0	0	100	100	95-100	35-90	15-90	10-80	0-10
	18-30	Stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, stratified very fine sandy loam to silt loam	0	0	100	100	95-100	35-90	15-90	10-80	0-10
	30-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	0	0	80-100	70-100	70-100	25-90	15-90	10-80	0-10
30-Boreal scrub, silty flood plains-----	0-10	Slightly decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	10-22	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
	22-60	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
30-Boreal forest, loamy flood plains -----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	100	95-100	45-100	0-75	15-95	3-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	90-100	10-85	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified very fine sandy loam to silt loam	0	0	95-100	95-100	90-100	45-80	25-75	25-65	0-15
D30HIA: 30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-5	Silt, silt loam	0	0	100	100	95-100	70-95	0-45	50-100	3-10
	5-11	Silt, silt loam	0	0	100	100	95-100	70-95	0-100	50-100	3-10
	11-30	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	3-10
	30-60	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	1-10
30-Boreal forest, loamy eolian slopes---	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-6	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	6-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	8-20	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	20-37	Very fine sandy loam, silt loam	0	0	95-100	90-100	90-100	45-90	15-75	15-80	3-10
	37-60	Very gravelly silt loam, very gravelly loam	0	10-25	50-65	25-45	20-45	15-40	15-45	40-80	0-15
30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	0	0-35	---	---	---	---	---	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	0	0-20	45-100	10-100	10-100	5-90	15-75	15-80	3-15
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	0	0-55	40-80	10-70	5-65	5-60	15-75	15-80	3-15
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam	0	10-40	45-65	20-50	10-45	5-40	15-75	15-80	3-15
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	0	10-40	40-70	10-50	5-45	2-40	15-75	15-80	3-18
D30HIB: 30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-5	Silt, silt loam	0	0	100	100	95-100	70-95	0-45	50-100	3-10
	5-11	Silt, silt loam	0	0	100	100	95-100	70-95	0-100	50-100	3-10
	11-30	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	3-10
	30-60	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	1-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
<b>D30HIB:</b>											
30-Boreal taiga, loamy eolian slopes---	0-8	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	8-11	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	11-16	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	16-31	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
<b>30-Boreal scrub-sedge, loamy eolian slopes-----</b>											
30-Boreal scrub-sedge, loamy eolian slopes-----	0-4	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	4-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	8-12	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	12-60	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
<b>D30MTA:</b>											
30-Boreal forest, loamy eolian slopes---	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-6	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	6-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	8-20	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	20-37	Very fine sandy loam, silt loam	0	0	95-100	90-100	90-100	45-90	15-75	15-80	3-10
	37-60	Very gravelly silt loam, very gravelly loam	0	10-25	50-65	25-45	20-45	15-40	15-45	40-80	0-15
<b>30-Boreal woodland, loamy eolian slopes---</b>											
30-Boreal woodland, loamy eolian slopes---	0-2	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10
	8-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10
	10-60	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10
<b>30-Subalpine scrub, gravelly colluvial slopes-----</b>											
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	0	0	45-80	15-70	10-70	5-65	15-50	35-80	3-15
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	0	0-25	45-80	15-70	10-65	5-60	15-75	15-80	3-15
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	0	0-30	45-65	15-45	10-40	5-35	20-60	30-70	3-18
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-80	40-70	30-60	10-40	45-75	15-45	1-10
<b>D30MTB:</b>											
30-Boreal woodland, loamy eolian slopes---	0-2	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10
	8-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10
	10-60	Very fine sandy loam, silt loam	0	0	100	100	95-100	45-80	25-75	15-70	3-10

Table 8. Engineering Partial Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
D30MTB:											
30-Boreal taiga, loamy eolian slopes---	0-8	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	8-11	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	11-16	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	16-31	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
30-Boreal forest, loamy eolian slopes---	0-4	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	4-6	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	6-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	8-20	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	20-37	Very fine sandy loam, silt loam	0	0	95-100	90-100	90-100	45-90	15-75	15-80	3-10
	37-60	Very gravelly silt loam, very gravelly loam	0	10-25	50-65	25-45	20-45	15-40	15-45	40-80	0-15
D30MTC:											
30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	0	0-35	---	---	---	---	---	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	0	0-20	45-100	10-100	10-100	5-90	15-75	15-80	3-15
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	0	0-55	40-80	10-70	5-65	5-60	15-75	15-80	3-15
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	0	10-40	45-65	20-50	10-45	5-40	15-75	15-80	3-15
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	0	10-40	40-70	10-50	5-45	2-40	15-75	15-80	3-18
30-Boreal woodland, loamy colluvial slopes-----	0-11	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	11-15	Fine sandy loam, gravelly silt loam, silt loam	0	0-10	70-100	55-100	55-100	30-90	15-75	15-80	3-15
	15-18	Gravelly fine sandy loam, silt loam	0	0	65-100	50-100	50-100	25-90	15-75	15-80	3-15
	18-60	Very cobbly silt loam, very gravelly silt loam, silt loam, gravelly silt loam	0	0-50	55-85	25-80	20-70	15-70	15-45	50-80	3-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
D30MTC: 30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	0	0	45-80	15-70	10-70	5-65	15-50	35-80	3-15
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	0	0-25	45-80	15-70	10-65	5-60	15-75	15-80	3-15
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	0	0-30	45-65	15-45	10-40	5-35	20-60	30-70	3-18
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-80	40-70	30-60	10-40	45-75	15-45	1-10
D30MTD: 30-Boreal woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	0	0-25	50-85	20-80	20-80	10-70	15-75	15-80	3-10
	8-13	Very channery fine sandy loam	0	15-30	50-70	20-55	20-50	5-30	45-75	15-45	3-10
	13-24	Extremely channery fine sandy loam	0	10-25	40-50	10-20	10-20	5-10	45-75	15-45	3-10
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	0	10-25	40-80	10-70	10-70	5-65	15-45	50-80	3-10
30-Boreal taiga, loamy colluvial slopes-----	0-5	Peat	0	0	---	---	---	---	---	---	---
	5-13	Muck	0	0	---	---	---	---	---	---	---
	13-16	Fine sandy loam, silt loam	0	0	85-100	80-100	75-100	40-90	15-75	15-80	3-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	0	0	45-80	15-70	10-70	5-65	15-50	35-80	3-15
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	0	0-25	45-80	15-70	10-65	5-60	15-75	15-80	3-15
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	0	0-30	45-65	15-45	10-40	5-35	20-60	30-70	3-18
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-80	40-70	30-60	10-40	45-75	15-45	1-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
D30TEA: 30-Boreal woodland, sandy terraces -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	8-12	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	12-30	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	100	90-100	35-85	15-75	15-80	3-10
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	0	0	75-100	60-100	40-75	5-30	75-100	0-25	0-10
30-Boreal woodland, loamy terraces -----	0-4	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-12	Very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	15-75	15-80	3-10
	12-22	Fine sandy loam, very fine sandy loam, silt loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
	22-43	Loam, very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-15
	43-60	Fine sand, loamy fine sand, sand, fine sandy loam	0	0	100	100	15-95	10-60	45-100	0-45	0-10
30-Boreal woodland, gravelly terraces -----	0-7	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	7-11	Mucky peat	0	0	---	---	---	---	---	---	---
	11-16	Stratified fine sand to silt, silt loam	0	0	100	100	90-100	35-100	0-100	0-95	0-10
	16-27	Stratified fine sand to silt, silt loam	0	0	100	100	90-100	35-100	0-100	0-95	0-10
	27-60	Extremely cobbly coarse sand, extremely gravelly coarse sand, extremely gravelly sand	0	0-25	40-65	5-45	5-30	0-10	85-100	0-15	0-5
D30TEB: 30-Boreal scrub, silty terraces -----	0-4	Peat	0	0	---	---	---	---	---	---	---
	4-7	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
	7-9	Peat, muck	0	0	---	---	---	---	---	---	---
	9-13	Silt, silt loam	0	0	100	100	100	70-100	0-45	50-95	3-10
	13-23	Silt loam, silt	0	0	100	100	100	70-100	0-45	50-95	3-10
	23-60	Silt loam, silt	0	0	90-100	80-100	80-100	70-100	0-45	50-95	3-10
30-Boreal sedge, loamy depressions ---	0-1	Stratified slightly decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	1-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	10-37	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	0	0	100	100	95-100	40-90	15-80	10-80	1-10
30-Boreal scrub, organic depressions --	0-39	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	39-47	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	47-60	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
D30TEF: 30-Boreal scrub-sedge, loamy terraces	0-3	Peat	0	0	---	---	---	---	---	---	---
	3-10	Muck, mucky peat	0	0	---	---	---	---	---	---	---
	10-17	Very fine sandy loam	0	0	100	100	95-100	45-65	45-75	15-45	3-10
	17-26	Very fine sandy loam	0	0	100	100	95-100	45-65	45-75	15-45	3-10
	26-60	Permanently frozen material	0	0	100	100	95-100	45-65	45-75	15-45	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
D30TEF:											
30-Boreal scrub, loamy terraces -----	0-16	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	16-25	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	25-28	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
	28-30	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
	30-60	Permanently frozen very fine sandy loam, permanently frozen silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
30-Boreal taiga, loamy terraces -----	0-10	Peat	0	0	---	---	---	---	---	---	---
	10-13	Mucky silt loam, silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
	13-29	Silt loam, very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
	29-60	Permanently frozen silt loam, permanently frozen very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10
D30TEG:											
30-Boreal scrub, organic terraces-----	0-24	Mucky peat, muck, peat	0	0	---	---	---	---	---	---	---
	24-59	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	59-60	Mucky peat, peat, muck	0	0	---	---	---	---	---	---	---
30-Boreal sedge, loamy depressions ---	0-1	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	1-10	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	10-37	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	37-60	Stratified silt loam to loamy very fine sand, very fine sandy loam	0	0	100	100	95-100	40-90	15-80	10-80	1-10
D38FPA:											
38-Boreal forest, silty flood plains, occasional flooding ---	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt loam to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15
38-Boreal scrub, silty flood plains, moderately wet-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
D38FPB:											
38-Boreal forest, sandy flood plains -----	0-2	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-8	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	65-85	15-30	60-75	0-10
	8-39	Stratified loamy fine sand to silt loam	0	0	100	100	80-90	45-65	20-90	10-70	0-10
	39-60	Stratified gravelly sand to gravelly loamy fine sand, stratified sand to loamy fine sand	0	0	75-100	60-100	50-90	10-40	75-95	5-30	0-5

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
D38FPB: 38-Boreal scrub, silty flood plains-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
38-Boreal scrub, sandy flood plains ----	0-3	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-7	Silt loam	0	0	100	100	95-100	65-85	10-30	60-75	0-10
	7-60	Stratified sand to silt loam	0	0	100	100	40-90	10-70	25-95	5-70	0-5
D38FPC: 38-Boreal scrub, silty flood plains-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
38-Boreal sedge, loamy depressions, occasional flooding ---	0-1	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	1-28	Mucky silt loam, silt, silt loam	0	0	100	100	60-100	50-100	10-45	50-90	0-10
	28-60	Very fine sandy loam, stratified silt loam to loamy very fine sand	0	0	100	100	60-100	50-80	15-85	10-80	0-10
38-Boreal grass, organic flood plains ---	0-47	Peat, stratified mucky peat to silt loam	0	0	---	---	---	---	---	---	---
	47-51	Peat, stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	51-60	Silt loam, fine sandy loam	0	0	100	100	80-90	60-80	25-65	25-70	2-10
D38FPD: 38-Boreal scrub, silty flood plains-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
38-Boreal forest, silty flood plains-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt loam to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
D38FPE: 38-Boreal scrub, gravelly flood plains, frequent flooding-----	In.										
	0-4	Stratified very gravelly sand to fine sand, stratified sand to fine sandy loam to silt loam, loamy fine sand	0	0	60-100	50-100	45-90	5-65	35-95	5-65	0-10
	4-47	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, very gravelly loamy coarse sand	0	0-10	20-40	15-30	5-20	0-10	60-95	5-30	0-10
	47-60	Stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam	0	0-5	30-80	25-75	0-70	0-30	50-90	10-42	0-8
38-Boreal scrub, silty flood plains, frequent flooding-----	0-4	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	4-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
D38FPF: 38-Boreal scrub, loamy flood plains, Yukon Delta-----	0-6	Peat, slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	6-11	Silt, very fine sandy loam, silt loam	0	0	100	100	50-100	30-100	5-75	15-90	0-10
	11-30	Silt loam, stratified silt loam to loamy fine sand, stratified silt loam to moderately decomposed plant material, very fine sandy loam, stratified silt loam to very fine sandy loam	0	0	100	100	50-90	10-80	15-85	10-80	0-10
	30-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen very fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam	0	0	80-100	75-100	50-90	10-80	25-80	15-65	0-15
38-Boreal forest, silty flood plains, moderately wet-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt loam to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15
38-Boreal taiga, organic terraces, rare flooding -----	0-20	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	20-25	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	25-32	Mucky silt loam, silt loam, silt	0	0	100	100	90-100	65-90	5-50	50-90	0-10
	32-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	95-100	95-100	0-20	80-100	0-10



Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
<b>D38TEC:</b>											
38-Boreal taiga, organic terraces-----	0-20	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	20-25	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	25-32	Mucky silt loam, silt loam, silt	0	0	100	100	90-100	65-90	5-50	50-90	0-10
	32-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	95-100	95-100	0-20	80-100	0-10
<b>38-Boreal scrub- sedge, loamy terraces</b>											
	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-14	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	18-31	Silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	31-60	Permanently frozen silt	0	0	100	100	100	95-100	0-15	80-95	0-10
<b>38-Boreal dwarf scrub, silty terraces -----</b>											
	0-12	Peat	0	0	---	---	---	---	---	---	---
	12-13	Mucky silt, mucky silt loam	0	0	100	100	80-100	70-90	5-45	50-90	4-10
	13-22	Silt, very fine sandy loam, silt loam	0	0	100	100	80-100	60-90	5-65	35-90	0-10
	22-47	Silt, very fine sandy loam, silt loam	0	0	100	100	80-100	60-90	5-65	35-90	0-10
	47-60	Silt, very fine sandy loam, silt loam	0	0	100	100	80-100	60-90	5-65	35-90	0-10
<b>D38TED:</b>											
38-Boreal scrub- sedge, loamy terraces -----	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-14	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	18-31	Silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	31-60	Permanently frozen silt	0	0	100	100	100	95-100	0-15	80-95	0-10
<b>38-Boreal scrub, loamy terraces -----</b>											
	0-4	Highly decomposed plant material	0	0	---	---	---	---	---	---	---
	4-8	Silt loam, very fine sandy loam	0	0	100	100	80-95	40-90	25-65	25-70	2-10
	8-14	Silt loam, very fine sandy loam	0	0	100	100	80-95	40-90	25-65	25-70	2-10
	14-22	Fine sandy loam, silt loam	0	0	100	100	80-95	40-90	25-65	25-70	2-10
	22-60	Silt, silt loam	0	0	100	100	60-100	50-100	15-45	50-85	0-10
<b>38-Boreal scrub- sedge, organic terraces -----</b>											
	0-24	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	24-31	Silt loam, silt	0	0	100	100	90-100	80-90	5-25	65-90	4-10
	31-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	95-100	95-100	5-25	65-90	4-10
<b>R29FPC:</b>											
29-Boreal forest, gravelly flood plains---	0-3	Highly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-5	Fine sandy loam, loamy fine sand, silt loam	0	0	100	100	85-90	20-80	15-85	10-70	3-10
	5-12	Fine sandy loam, silt loam	0	0	100	100	90-100	40-70	25-65	25-70	2-10
	12-43	Stratified sand to fine sandy loam to silt loam	0	0	100	100	50-100	5-65	35-95	5-65	3-10
	43-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, stratified gravelly sand to fine sandy loam	0	0-5	35-50	25-35	5-20	0-10	85-100	0-10	0-5

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R29FFPC: 29-Boreal forest, loamy flood plains -----	0-1	Peat, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Silt, silt loam, very fine sandy loam	0	0	100	95-100	50-100	30-100	5-50	45-90	0-10
	3-28	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	95-100	50-90	20-55	15-95	5-80	0-10
	28-60	Stratified loamy fine sand to fine sandy loam, stratified silt loam to gravelly sandy loam, stratified very fine sandy loam to silt loam	0	0	75-100	50-100	40-90	10-80	25-75	25-65	0-15
29-Boreal grass, organic flood plains ---	0-47	Peat, stratified mucky peat to silt loam	0	0	---	---	---	---	---	---	---
	47-51	Peat, stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	51-60	Silt loam, fine sandy loam	0	0	100	100	80-90	60-80	25-65	25-70	2-10
R29FFPD: 29-Boreal scrub, loamy flood plains -----	0-10	Stratified silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	39-60	Stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
29-Boreal grass, loamy flood plains -----	0-2	Mucky peat	0	0	---	---	---	---	---	---	---
	2-9	Silt loam	0	0	100	100	85-100	70-95	15-45	50-80	3-10
	9-18	Silt loam	0	0	100	100	85-100	70-95	15-45	50-80	3-10
	18-60	Stratified silt loam to very fine sand	0	0	100	100	85-100	45-95	15-90	7-80	3-10
R29FFPE: 29-Boreal scrub, organic flood plains ---	0-28	Highly decomposed plant material, stratified highly decomposed plant material to slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	28-33	Fine sandy loam, silt loam	0	0	100	100	80-90	60-80	25-65	25-70	2-10
	33-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam, permanently frozen very fine sandy loam, permanently frozen material	0	0	80-100	75-100	50-90	10-80	25-80	15-65	0-15
29-Boreal grass, organic flood plains ---	0-47	Peat, stratified mucky peat to silt loam	0	0	---	---	---	---	---	---	---
	47-51	Peat, stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	51-60	Silt loam, fine sandy loam	0	0	100	100	80-90	60-80	25-65	25-70	2-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R29FPF: 29-Boreal forest, gravelly flood plains---	0-3	Highly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-5	Fine sandy loam, loamy fine sand, silt loam	0	0	100	100	85-90	20-80	15-85	10-70	3-10
	5-12	Fine sandy loam, silt loam	0	0	100	100	90-100	40-70	25-65	25-70	2-10
	12-43	Stratified sand to fine sandy loam to silt loam	0	0	100	100	50-100	5-65	35-95	5-65	3-10
	43-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, stratified gravelly sand to fine sandy loam	0	0-5	35-50	25-35	5-20	0-10	85-100	0-10	0-5
29-Boreal woodland, sandy terraces -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	8-12	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	12-30	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-65	25-70	2-10
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	0	0	80-100	60-100	40-75	5-35	65-90	5-25	0-5
29-Boreal scrub, loamy flood plains ----	0-10	Stratified silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	10-17	Silt loam, stratified highly decomposed plant material to very fine sandy loam, stratified silt loam to loamy fine sand, very fine sandy loam, stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
	17-39	Stratified moderately decomposed plant material to silt loam to fine sand	0	0	100	100	85-100	5-95	15-100	0-80	0-10
	39-60	Stratified silt loam to fine sandy loam	0	0	100	100	70-100	10-95	15-75	15-80	0-10
R29PLA: 29-Boreal grass, loamy depressions ----	0-2	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	2-6	Silt, silt loam, very fine sandy loam	0	0	100	95-100	50-100	30-100	15-60	35-85	0-15
	6-19	Silt loam, very fine sandy loam	0	0	100	95-100	50-100	30-100	30-65	30-60	0-15
	19-59	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	30-100	15-60	35-85	0-15
	59-60	Stratified very fine sandy loam to silt loam	0	0	100	95-100	50-100	30-100	30-65	30-60	0-15
29-Boreal woodland, silty terraces -----	0-10	Mucky peat, peat, slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	10-12	Silt loam, silt	0	0	100	100	90-100	80-100	5-25	65-90	4-10
	12-22	Silt, silt loam	0	0	100	100	80-100	65-95	5-20	60-90	2-10
	22-54	Silt loam, silt	0	0	100	100	80-100	65-95	5-20	60-90	2-10
	54-60	Silt, silt loam	0	0	100	100	80-100	65-95	5-30	60-85	2-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R29PLA: 29-Boreal forest, loamy till plains-----	0-1	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	1-2	Silt, silt loam	0	0-20	95-100	90-100	50-100	50-100	0-40	50-100	0-15
	2-5	Gravelly silt loam, silt, silt loam, loam	0	0-20	95-100	95-100	50-100	50-100	0-65	30-100	5-15
	5-15	Very cobbly loam, gravelly silt loam, very gravelly sandy loam, gravelly loam	0	0-50	60-100	55-100	30-50	30-40	0-65	20-100	5-10
	15-60	Very cobbly loam, very gravelly silt loam, very gravelly sandy loam, gravelly loam	0	0-50	60-80	55-75	30-50	15-25	20-70	20-80	5-10
29-Boreal sedge, organic depressions --	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-17	Mucky peat	0	0	---	---	---	---	---	---	---
	17-28	Mucky peat, peat, muck	0	0	---	---	---	---	---	---	---
	28-60	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	30-100	15-60	35-85	0-15
R29PLB: 29-Boreal sedge, organic plains-----	0-26	Peat	0	0	---	---	---	---	---	---	---
	26-39	Water	---	---	---	---	---	---	---	---	---
	39-60	Mucky peat	0	0	---	---	---	---	---	---	---
29-Water-----	---	---	---	---	---	---	---	---	---	---	---
R29UPA: 29-Boreal scrub, organic plains-----	0-17	Muck, stratified muck to peat	0	0	---	---	---	---	---	---	---
	17-22	Silt, silt loam	0	0	100	100	90-100	80-90	15-45	50-90	4-10
	22-27	Mixed muck, silt loam, mucky peat	0	0	100	100	90-100	80-95	0-45	50-95	3-10
	27-60	Permanently frozen stratified loamy fine sand to fine sandy loam, permanently frozen stratified very fine sandy loam to silt loam, permanently frozen very fine sandy loam, permanently frozen material	0	0	80-100	75-100	50-90	10-80	25-80	15-65	0-15
29-Boreal sedge, organic depressions --	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-17	Mucky peat	0	0	---	---	---	---	---	---	---
	17-28	Mucky peat, peat, muck	0	0	---	---	---	---	---	---	---
	28-60	Silt, silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	30-100	15-60	35-85	0-15
29-Boreal taiga, silty plains -----	0-15	Peat	0	0	---	---	---	---	---	---	---
	15-20	Silt loam, silt	0	0	100	100	90-100	80-100	5-25	65-90	4-10
	20-28	Silt loam, silt	0	0	100	100	90-100	80-90	5-20	65-90	4-12
	28-60	Silt loam, silt	0	0	100	100	90-100	80-90	5-20	65-90	4-12
R29UPB: 29-Boreal forest, silty eolian slopes-----	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-5	Silt, silt loam	0	0	100	100	95-100	75-100	5-40	50-80	2-10
	5-15	Silt, silt loam	0	0	100	100	95-100	75-100	5-40	50-80	2-10
	15-24	Silt, silt loam	0	0	100	100	95-100	75-100	0-40	70-95	2-10
	24-60	Channery silt loam, gravelly silt loam, very stony silt loam	0-80	0-10	75-100	70-100	70-100	60-100	0-40	70-95	2-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R29UPB:											
29-Boreal taiga, silty eolian slopes-----	0-10	Mucky peat, muck	0	0	---	---	---	---	---	---	---
	10-33	Silt loam, mucky silt	0	0	100	100	90-100	80-90	0-20	65-90	4-10
	33-60	Silt loam, silt	0	0	100	100	90-100	80-90	5-20	65-90	4-12
29-Subalpine woodland, silty colluvial slopes-----	0-10	Peat	0	0	---	---	---	---	---	---	---
	10-12	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	12-19	Silt, silt loam	0	0	100	100	95-100	50-100	5-20	60-90	2-10
	19-35	Silt loam, silt	0	0	100	100	95-100	50-100	5-40	60-100	2-15
	35-57	Silt, silt loam	0	0	100	100	95-100	50-100	5-40	60-100	2-10
	57-59	Peat, muck	0	0	---	---	---	---	---	---	---
	59-60	Very gravelly silt loam, silt loam, gravelly silt loam	0	0-25	85-100	80-100	75-100	50-100	5-40	60-100	2-15
R29UPC:											
29-Boreal woodland, sandy terraces-----	0-5	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	8-12	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	12-30	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-65	25-70	2-10
	30-60	Fine sand, gravelly loamy sand, loamy fine sand, sand	0	0	80-100	60-100	40-75	5-35	65-90	5-25	0-5
29-Boreal forest, sandy terraces-----	0-2	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-4	Fine sandy loam, very fine sandy loam, silt loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	4-6	Fine sandy loam, very fine sandy loam, silt loam	0	0	100	95-100	50-100	15-80	25-60	25-75	2-10
	6-22	Silt loam	0	0	100	100	95-100	75-95	5-60	30-80	0-10
	22-50	Silt loam, very fine sandy loam, fine sandy loam	0	0	100	95-100	50-100	15-80	25-65	25-70	2-10
	50-60	Fine sand, loamy fine sand, loamy sand, sand	0	0	90-100	90-100	40-75	5-35	65-100	0-25	0-10
R29WAA:											
29-Water-----	---	---	---	---	---	---	---	---	---	---	---
R30FPA:											
30-Boreal forest, gravelly flood plains---	0-4	Highly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-13	Fine sandy loam, loamy fine sand, silt loam	0	0	100	100	95-100	40-90	15-90	10-80	0-10
	13-25	Silt loam, fine sandy loam	0	0	100	100	90-95	40-80	15-75	15-80	3-10
	25-39	Stratified sand to fine sandy loam to silt loam	0	0	95-100	90-100	80-100	15-90	15-95	5-60	0-10
	39-60	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand	0	0-5	40-60	5-35	5-25	0-15	55-100	0-45	0-10



Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R30HID: 30-Boreal forest, silty colluvial slopes---	0-4	Moderately decomposed plant material	0	0-10	---	---	---	---	---	---	---
	4-12	Silt, cobbly silt loam	0	0-20	100	100	95-100	75-100	5-40	50-80	2-10
	12-20	Very cobbly loam, cobbly silt loam	0	10-30	60-100	55-100	30-50	30-40	15-70	15-80	3-10
	20-60	Very cobbly loam, cobbly silt loam	0	10-30	60-100	55-100	30-50	30-40	15-70	15-80	3-10
30-Boreal forest, silty eolian slopes, rocky---	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-5	Silt, silt loam	0	0	100	100	95-100	75-100	5-40	50-80	2-10
	5-15	Silt, silt loam	0	0	100	100	95-100	75-100	5-40	50-80	2-10
	15-24	Silt, silt loam	0	0	100	100	95-100	75-100	0-40	70-95	2-10
	24-60	Channery silt loam, gravelly silt loam, very stony silt loam	0-80	0-10	75-95	70-85	70-80	60-80	0-40	70-95	2-10
30-Subalpine woodland, silty colluvial slopes-----	0-10	Peat	0	0	---	---	---	---	---	---	---
	10-12	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	12-19	Silt, silt loam	0	0	100	100	95-100	50-100	5-20	60-90	2-10
	19-35	Silt loam, silt	0	0	100	100	95-100	50-100	5-40	60-100	2-15
	35-57	Silt, silt loam	0	0	100	100	95-100	50-100	5-40	60-100	2-10
	57-59	Peat, muck	0	0	---	---	---	---	---	---	---
	59-60	Very gravelly silt loam, silt loam, gravelly silt loam	0	0-25	85-100	80-100	75-100	50-100	5-40	60-100	2-15
R30MTA: 30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-5	Silt, silt loam	0	0	100	100	95-100	70-95	0-45	50-100	3-10
	5-11	Silt, silt loam	0	0	100	100	95-100	70-95	0-100	50-100	3-10
	11-30	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	3-10
	30-60	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	1-10
30-Boreal forest, loamy eolian slopes---	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-6	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	6-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	8-20	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	20-37	Very fine sandy loam, silt loam	0	0	95-100	90-100	90-100	45-90	15-75	15-80	3-10
	37-60	Very gravelly silt loam, very gravelly loam	0	10-25	50-65	25-45	20-45	15-40	15-45	40-80	0-15
30-Boreal woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	6-8	Very channery fine sandy loam, very gravelly silt loam, channery silt loam	0	0-25	50-85	20-80	20-80	10-70	15-75	15-80	3-10
	8-13	Very channery fine sandy loam	0	15-30	50-70	20-55	20-50	5-30	45-75	15-45	3-10
	13-24	Extremely channery fine sandy loam	0	10-25	40-50	10-20	10-20	5-10	45-75	15-45	3-10
	24-60	Gravelly silt loam, very gravelly silt loam, extremely channery silt loam	0	10-25	40-80	10-70	10-70	5-65	15-45	50-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R30MTB:											
30-Boreal taiga, loamy colluvial slopes-----	0-5	Peat	0	0	---	---	---	---	---	---	---
	5-13	Muck	0	0	---	---	---	---	---	---	---
	13-16	Fine sandy loam, silt loam	0	0	85-100	80-100	75-100	40-90	15-75	15-80	3-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	0	0-35	---	---	---	---	---	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	0	0-20	45-100	10-100	10-100	5-90	15-75	15-80	3-15
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	0	0-55	40-80	10-70	5-65	5-60	15-75	15-80	3-15
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	0	10-40	45-65	20-50	10-45	5-40	15-75	15-80	3-15
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	0	10-40	40-70	10-50	5-45	2-40	15-75	15-80	3-18
30-Boreal scrub, loamy eolian slopes---	0-1	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	3-6	Mucky very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	6-32	Very fine sandy loam, silt loam	0	0	100	100	100	50-90	15-75	15-80	3-10
	32-60	Very fine sandy loam, silt loam	0	0	100	100	100	50-90	15-75	15-80	3-10
30-Subalpine forest, gravelly residual slopes-----	0-4	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	4-7	Very cobbly silt loam, very gravelly silt loam	0	0-80	55-65	30-45	30-45	20-40	15-45	50-80	3-10
	7-14	Extremely cobbly silt loam, gravelly silt loam, gravelly very fine sandy loam, very gravelly silt loam	0-10	0-90	50-80	20-70	20-70	10-65	15-75	15-80	3-10
	14-60	Gravelly sandy loam, very gravelly silt loam, extremely gravelly silt loam	0-20	0-20	40-80	10-70	10-70	5-65	15-75	15-80	1-10
30-Subalpine scrub, loamy colluvial slopes-----	0-3	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	3-5	Mucky silt loam, silt loam	0	0	100	100	50-100	50-100	15-45	50-80	3-10
	5-10	Very fine sandy loam, silt loam	0	0	95-100	90-100	45-100	45-100	15-75	15-80	3-10
	10-20	Gravelly silt loam, silt loam, very gravelly silt loam	0	0-20	55-100	50-100	25-100	25-100	15-45	50-80	3-10
	20-60	Gravelly silt loam, silt loam, very gravelly silt loam	0	0-30	45-90	40-85	20-85	20-85	15-45	50-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R30MTC: 30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material, slightly decomposed plant material	0	0-35	---	---	---	---	---	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	0	0-20	45-100	10-100	10-100	5-90	15-75	15-80	3-15
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	0	0-55	40-80	10-70	5-65	5-60	15-75	15-80	3-15
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	0	10-40	45-65	20-50	10-45	5-40	15-75	15-80	3-15
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	0	10-40	40-70	10-50	5-45	2-40	15-75	15-80	3-18
30-Boreal scrub, silty colluvial slopes-----	0-7	Stratified peat to silt loam	0	0	---	---	---	---	---	---	---
	7-9	Mucky peat, peat, muck	0	0	---	---	---	---	---	---	---
	9-13	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	13-22	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	22-41	Very cobbly loam, gravelly fine sandy loam, very gravelly silt loam	0	0-15	55-75	40-70	30-65	20-55	30-65	25-65	5-20
41-60	Cobbles	0	100	---	---	---	---	---	---	---	
30-Subalpine woodland, gravelly colluvial slopes-----	0-6	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	6-7	Very gravelly silt loam, silt loam, gravelly very fine sandy loam	0	0-10	65-90	60-90	55-90	50-90	0-70	20-80	0-15
	7-15	Gravelly silt loam, gravelly very fine sandy loam, very gravelly very fine sandy loam	0	0-15	45-75	40-70	20-70	10-55	0-70	20-80	0-15
	15-22	Extremely cobbly very fine sandy loam, very gravelly silt loam, gravelly silt loam	0	0-50	15-50	10-45	5-45	5-45	0-70	20-80	0-20
	22-60	Extremely cobbly very fine sandy loam, very gravelly silt loam, extremely gravelly silt loam	0	0-50	15-50	10-45	5-45	5-45	0-70	20-80	0-20
30-Boreal taiga, loamy colluvial slopes-----	0-5	Peat	0	0	---	---	---	---	---	---	---
	5-13	Muck	0	0	---	---	---	---	---	---	---
	13-16	Fine sandy loam, silt loam	0	0	85-100	80-100	75-100	40-90	15-75	15-80	3-10
	16-22	Very cobbly fine sandy loam, gravelly loam, silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15
	22-60	Permanently frozen very cobbly loam, permanently frozen gravelly fine sandy loam, permanently frozen silt loam	0	0-30	70-100	55-100	50-100	25-90	15-75	15-80	3-15



Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R30MTE: 30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	0	0	45-80	15-70	10-70	5-65	15-50	35-80	3-15
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	0	0-25	45-80	15-70	10-65	5-60	15-75	15-80	3-15
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	0	0-30	45-65	15-45	10-40	5-35	20-60	30-70	3-18
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-80	40-70	30-60	10-40	45-75	15-45	1-10
30-Subalpine woodland, loamy colluvial slopes-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-10	Gravelly fine sandy loam, very fine sandy loam, silt loam	0	0	75-100	60-100	60-100	30-90	15-75	15-80	3-10
	10-12	Gravelly silt loam, silt loam, very fine sandy loam	0	0	75-100	60-100	60-100	30-90	15-75	15-80	3-10
	12-24	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-65	40-50	30-40	15-30	45-75	15-45	1-10
	24-60	Bedrock	---	---	---	---	---	---	---	---	---
R30UPA: 30-Boreal taiga, silty plains-----	0-9	Peat	0	0	---	---	---	---	---	---	---
	9-15	Mucky peat	0	0	---	---	---	---	---	---	---
	15-19	Silt loam, silt	0	0	100	100	100	80-100	0-45	50-95	3-10
	19-35	Silt loam, silt	0	0	100	100	100	80-100	0-45	50-95	3-10
	35-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	100	80-100	0-45	50-95	3-10
30-Subalpine woodland, loamy till slopes-----	0-7	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	7-11	Silt, silt loam	0	0	100	100	100	85-95	5-45	50-95	0-15
	11-17	Gravelly silt loam, silt, silt loam	0	0	80-100	65-100	65-100	55-95	5-45	50-95	0-15
	17-34	Very cobbly loam, very gravelly sandy loam, gravelly silt loam	0	0-30	65-80	50-70	45-70	20-60	20-70	20-80	0-10
	34-60	Very cobbly loam, very gravelly sandy loam, very gravelly silt loam	0	10-25	45-65	20-50	15-45	5-40	20-70	20-80	0-10
30-Subalpine sedge, organic depressions--	0-39	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	39-60	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
R30UPB: 30-Boreal forest, loamy eolian slopes---	0-4	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-6	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	6-8	Very fine sandy loam, silt loam	0	0	100	100	95-100	40-90	15-75	15-80	3-10
	8-20	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-90	15-75	15-80	3-10
	20-37	Very fine sandy loam, silt loam	0	0	95-100	90-100	90-100	45-90	15-75	15-80	3-10
	37-60	Very gravelly silt loam, very gravelly loam	0	10-25	50-65	25-45	20-45	15-40	15-45	40-80	0-15

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
R30UPB: 30-Boreal scrub, loamy colluvial slopes-----	0-9	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Fine sandy loam, silt loam	0	0	90-100	85-100	45-100	45-100	10-65	30-80	0-10
	12-18	Gravelly loam, very gravelly fine sandy loam, silt loam	0	0-40	50-100	20-100	20-100	10-90	15-75	15-80	3-15
	18-28	Very cobbly loam, very gravelly fine sandy loam, channery silt loam	0	10-40	50-80	20-70	20-70	10-60	15-75	15-80	3-15
	28-60	Extremely cobbly loam, very gravelly sandy loam, very channery silt loam	0	10-50	40-80	10-70	10-70	5-60	15-75	15-80	3-15
30-Boreal tussock-scrub, loamy plains ---	0-9	Peat	0	0	---	---	---	---	---	---	---
	9-14	Mucky peat	0	0	---	---	---	---	---	---	---
	14-19	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	19-24	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	24-60	Permanently frozen silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
30-Rock outcrop, rhyolite -----	---	---	---	---	---	---	---	---	---	---	
R30UPC: 30-Boreal forest, gravelly colluvial slopes-----	0-3	Cobbly slightly decomposed plant material, very gravelly slightly decomposed plant material	0	0-35	---	---	---	---	---	---	---
	3-5	Gravelly very fine sandy loam, extremely gravelly loam, silt loam	0	0-20	45-100	10-100	10-100	5-90	15-75	15-80	3-15
	5-14	Very channery silt loam, gravelly very fine sandy loam, extremely gravelly loam, very gravelly loam	0	0-55	40-80	10-70	5-65	5-60	15-75	15-80	3-15
	14-20	Very channery silt loam, very gravelly fine sandy loam, very gravelly loam, very channery loam	0	10-40	45-65	20-50	10-45	5-40	15-75	15-80	3-15
	20-60	Very cobbly loam, extremely channery silt loam, very gravelly fine sandy loam, very gravelly silt loam	0	10-40	40-70	10-50	5-45	2-40	15-75	15-80	3-18
	30-Subalpine woodland, loamy till slopes-----	0-7	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---
7-11		Silt, silt loam	0	0	100	100	100	85-95	5-45	50-95	0-15
11-17		Gravelly silt loam, silt, silt loam	0	0	80-100	65-100	65-100	55-95	5-45	50-95	0-15
17-34		Very cobbly loam, very gravelly sandy loam, gravelly silt loam	0	0-30	65-80	50-70	45-70	20-60	20-70	20-80	0-10
34-60		Very cobbly loam, very gravelly sandy loam, very gravelly silt loam	0	10-25	45-65	20-50	15-45	5-40	20-70	20-80	0-10
30-Boreal forest, silty eolian slopes-----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-5	Silt, silt loam	0	0	100	100	95-100	70-95	0-45	50-100	3-10
	5-11	Silt, silt loam	0	0	100	100	95-100	70-95	0-100	50-100	3-10
	11-30	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	3-10
	30-60	Silt, silt loam	0	0	100	100	100	75-100	0-45	50-100	1-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R30UPC: 30-Subalpine scrub, gravelly colluvial slopes-----	0-2	Slightly decomposed plant material, channery moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Gravelly silt loam, mucky very gravelly silt loam, extremely gravelly loam	0	0	45-80	15-70	10-70	5-65	15-50	35-80	3-15
	6-16	Cobbly loam, extremely gravelly fine sandy loam, extremely gravelly silt loam, gravelly loam	0	0-25	45-80	15-70	10-65	5-60	15-75	15-80	3-15
	16-24	Very cobbly mucky loam, extremely gravelly silt loam	0	0-30	45-65	15-45	10-40	5-35	20-60	30-70	3-18
	24-60	Gravelly fine sandy loam, very gravelly very fine sandy loam, gravelly sandy loam	0	0-15	60-80	40-70	30-60	10-40	45-75	15-45	1-10
R30UPD: 30-Boreal tussock- scrub, loamy plains ---	0-9	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	9-14	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	14-19	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	19-24	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	24-60	Permanently frozen silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
30-Boreal dwarf scrub, silty plains -----	0-7	Mucky peat	0	0	---	---	---	---	---	---	---
	7-9	Silt loam, mucky silt	0	0	100	100	100	90-100	0-25	65-100	0-10
	9-18	Silt, highly decomposed plant material, silt loam, highly decomposed plant material	0	0	100	100	100	85-100	0-25	65-100	0-10
	18-28	Silt, silt loam	0	0	100	100	100	85-100	0-25	65-100	0-10
	28-60	Permanently frozen silt, permanently frozen silt loam	0	0	100	100	100	85-100	0-25	65-100	0-10
30-Boreal sedge, organic depressions --	0-11	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	11-21	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	21-60	Muck	0	0	---	---	---	---	---	---	---
30-Boreal scrub, loamy terraces -----	0-16	Peat	0	0	---	---	---	---	---	---	---
	16-25	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	25-28	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
	28-43	Very fine sandy loam, silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
	43-60	Permanently frozen very fine sandy loam, permanently frozen silt loam	0	0	100	100	95-100	50-100	15-75	15-80	3-10
R30UPE: 30-Boreal tussock- scrub, loamy plains ---	0-9	Peat	0	0	---	---	---	---	---	---	---
	9-14	Mucky peat	0	0	---	---	---	---	---	---	---
	14-19	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	19-24	Silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
	24-60	Permanently frozen silt loam	0	0	100	100	95-100	70-90	15-45	50-80	3-10
30-Boreal taiga, loamy eolian slopes---	0-8	Mucky peat, peat	0	0	---	---	---	---	---	---	---
	8-11	Muck, peat, mucky peat	0	0	---	---	---	---	---	---	---
	11-16	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	16-31	Very fine sandy loam, silt loam	0	0	100	100	100	45-90	15-75	15-80	3-10
	31-60	Permanently frozen silt loam, permanently frozen very fine sandy loam	0	0	100	100	95-100	45-90	15-75	15-80	3-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R30WAA: 30-Water-----	---	---	---	---	---	---	---	---	---	---	---
R37MTA: 37-Alpine dwarf scrub, gravelly colluvial slopes-----	0-2	Moderately decomposed plant material, slightly decomposed plant material	0	0-10	---	---	---	---	---	---	---
	2-9	Gravelly silt loam, silt loam	0	0-20	80-100	75-100	60-90	50-75	10-50	50-80	0-10
	9-15	Very cobbly loam, gravelly loam, very gravelly loam, very channery loam	0	0-75	40-65	35-60	30-50	25-40	30-50	30-50	0-20
	15-26	Very cobbly loam, gravelly loam, very gravelly loam, very channery loam	0	0-75	40-65	35-60	30-50	25-40	30-50	30-50	0-20
	26-50	Extremely cobbly loam, very gravelly sandy loam, very cobbly loam	0	0-65	30-55	25-50	20-50	15-45	35-70	10-50	0-20
	50-60	Cobbles	0	100	0	0	0	0	0-0	0-0	0-0
37-Alpine scrub, loamy colluvial slopes-----	0-1	Moderately decomposed plant material, peat, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	1-3	Gravelly silt loam, gravelly very fine sandy loam, mucky silt loam, silt loam	0	0	65-100	60-100	60-90	50-80	20-70	25-80	0-15
	3-6	Gravelly silt loam, loam, silt loam	0	0	65-100	60-100	60-90	50-80	15-50	35-80	0-15
	6-18	Gravelly silt loam, mucky silt loam, mixed loam	0	0	65-100	60-100	60-90	50-80	15-50	35-80	0-15
	18-41	Gravelly very fine sandy loam, silt loam, very fine sandy loam, loam	0	0-15	80-100	75-100	60-80	45-70	20-70	25-80	0-15
	41-60	Gravelly silt loam, very gravelly silt loam, very cobbly loam	0	0-80	40-80	35-75	20-50	15-45	20-50	35-80	0-15
37-Subalpine scrub, gravelly colluvial slopes-----	0-2	Very channery moderately decomposed plant material, slightly decomposed plant material, channery moderately decomposed plant material	0	0-35	---	---	---	---	---	---	---
	2-6	Cobbly loam, very channery silt loam, extremely gravelly loam, extremely gravelly mucky peat	0	0-30	35-100	30-100	25-100	20-100	10-50	35-80	0-15
	6-16	Extremely channery silt loam, extremely gravelly fine sandy loam, gravelly loam	0	0-10	40-100	35-100	30-50	30-40	20-65	20-80	0-15
	16-60	Very cobbly loam, extremely channery silt loam, extremely gravelly silt loam	0	0-50	25-100	20-100	10-50	10-50	20-52	30-80	0-18
37-Subalpine woodland, loamy till slopes-----	0-7	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	7-11	Silt, silt loam	0	0	75-100	70-100	50-100	50-100	0-40	50-100	0-15
	11-17	Gravelly silt loam, silt, silt loam	0	0-10	75-100	70-100	50-100	50-100	0-40	50-100	0-15
	17-34	Very cobbly loam, very gravelly sandy loam, gravelly silt loam	0	0-45	50-80	45-75	30-50	30-40	20-70	20-80	0-10
	34-60	Very cobbly loam, very channery sandy loam, very gravelly silt loam	0	0-40	50-55	45-50	30-50	30-40	20-70	20-80	0-10

Table 8. Engineering Partical Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
	In.										
R38FPA: 38-Boreal woodland, gravelly terraces -----	0-7	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	7-8	Silt loam	0	0	100	100	65-90	40-70	20-40	50-75	5-10
	8-16	Silt loam	0	0	100	100	65-90	40-70	20-45	50-75	5-10
	16-17	Silt loam	0	0	100	100	65-90	40-70	10-45	50-75	5-15
	17-22	Highly organic fine sandy loam, highly organic loam, stratified fine sand to highly organic silt	0	0	100	100	65-90	10-60	10-90	10-95	0-15
	22-28	Extremely gravelly coarse sand	0	50-80	10-75	5-55	5-40	5-25	85-100	0-10	0-5
	28-60	Extremely gravelly coarse sand	0	0-40	10-75	5-55	5-40	5-25	85-100	0-10	0-3
38-Tundra scrub, gravelly terraces -----	0-2	Moderately decomposed plant material, slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	2-4	Silt loam	0	0	100	100	50-70	40-65	20-45	50-75	5-10
	4-13	Fine sandy loam, gravelly loam, stratified very fine sand to silt	0	0-10	75-100	70-100	70-85	35-50	10-95	5-85	0-10
	13-20	Very gravelly loam, gravelly loam	0	0-20	40-85	35-60	35-55	25-40	30-50	30-50	10-20
	20-60	Extremely gravelly sand	0	0-40	15-30	10-25	0-15	0-5	85-100	0-10	0-5
38-Boreal forest, silty flood plains -----	0-2	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	2-6	Stratified silt loam to highly decomposed plant material	0	0	100	100	95-100	75-100	5-30	60-85	0-10
	6-37	Stratified silt loam to silt	0	0	100	100	95-100	75-95	5-60	30-85	0-10
	37-55	Stratified silt loam to slightly decomposed plant material	0	0	100	100	95-100	80-100	5-65	30-90	0-15
	55-60	Stratified fine sand to silt, stratified silt to silt loam	0	0	80-100	75-100	75-100	75-100	5-95	5-90	0-15
38-Boreal scrub, gravelly flood plains---	0-4	Stratified very gravelly sand to fine sand, stratified sand to fine sandy loam to silt loam, loamy fine sand	0	0	60-100	50-100	45-90	5-65	35-95	5-65	0-10
	4-47	Gravelly loamy coarse sand, very gravelly sandy loam, extremely gravelly sand, very gravelly loamy coarse sand	0	0-10	20-40	15-30	5-20	0-10	60-95	5-30	0-10
	47-60	Stratified gravelly sand to loamy fine sand to gravelly very fine sandy loam, stratified very gravelly sand to loamy fine sand to very gravelly very fine sandy loam	0	0-5	30-80	25-75	0-70	0-30	50-90	10-42	0-8
R38FPB: 38-Boreal grass, loamy flood plains -----	0-4	Mucky peat	0	0	---	---	---	---	---	---	---
	4-16	Silt loam	0	0	100	100	85-100	75-95	15-45	50-80	3-10
	16-60	Silt loam	0	0	100	100	85-100	75-95	15-45	50-80	3-10
38-Boreal scrub, silty flood plains -----	0-10	Moderately decomposed plant material, stratified moderately decomposed plant material to silt loam	0	0	---	---	---	---	---	---	---
	10-22	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10
	22-60	Silt, silt loam	0	0	100	95-100	60-100	50-100	10-45	50-90	0-10

Table 8. Engineering Partial Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
	In.		Pct.	Pct.					Pct.	Pct.	Pct.
<b>R38PLA:</b>											
38-Boreal forest, silty plains -----	0-5	Moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	5-7	Silt loam, silt	0	0	100	100	90-100	80-100	5-25	65-90	4-10
	7-17	Silt loam, silt	0	0	100	100	80-95	40-90	0-45	45-90	0-10
	17-38	Silt loam, very fine sandy loam, silt	0	0	100	100	80-95	40-90	10-65	25-90	0-10
	38-60	Silt loam, silt	0	0	100	100	60-100	50-100	10-45	50-85	0-10
38-Boreal scrub-sedge, loamy terraces -----	0-7	Peat	0	0	---	---	---	---	---	---	---
	7-14	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	14-18	Mucky silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	18-31	Silt, silt loam, very fine sandy loam	0	0	100	100	80-100	70-90	10-65	25-90	0-10
	31-60	Permanently frozen silt	0	0	100	100	100	95-100	0-15	80-95	0-10
38-Boreal woodland, silty plains -----	0-4	Peat, mucky peat	0	0	---	---	---	---	---	---	---
	4-12	Silt loam, mucky silt	0	0	100	100	90-100	90-100	5-30	70-90	0-10
	12-24	Stratified silt to muck	0	0	100	100	90-100	80-90	5-30	70-90	0-10
	24-60	Permanently frozen silt, permanently frozen silt loam	0	0	100	100	95-100	95-100	5-35	65-90	0-10
<b>R38PLB:</b>											
38-Tundra scrub, silty plains -----	0-3	Peat	0	0	---	---	---	---	---	---	---
	3-9	Silt loam, silt	0	0	100	100	90-100	80-100	5-25	65-90	5-10
	9-24	Stratified silt to muck	0	0	100	100	90-100	80-100	5-30	65-95	5-10
	24-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	90-100	80-90	5-30	65-90	5-10
38-Boreal woodland, loamy eolian slopes---	0-4	Slightly decomposed plant material, moderately decomposed plant material	0	0	---	---	---	---	---	---	---
	4-8	Silt loam, very fine sandy loam	0	0	100	100	85-100	70-80	30-70	15-80	3-10
	8-11	Silt loam, very fine sandy loam	0	0	100	100	85-100	70-80	30-70	25-60	5-15
	11-19	Silt loam, very fine sandy loam	0	0	100	100	85-100	70-80	30-70	25-60	5-15
	19-60	Silt loam, very fine sandy loam	0	0	100	100	85-100	70-80	30-70	25-60	5-15
38-Tundra dwarf scrub, silty plains -----	0-9	Slightly decomposed plant material	0	0	---	---	---	---	---	---	---
	9-12	Silt loam, silt	0	0	100	100	90-100	80-100	5-25	65-90	5-10
	12-30	Stratified silt to muck	0	0	100	100	90-100	80-100	5-25	65-95	5-10
	30-60	Permanently frozen silt loam, permanently frozen silt	0	0	100	100	90-100	80-100	5-30	65-90	5-10
<b>R38PLC:</b>											
38-Water-----	---	---	---	---	---	---	---	---	---	---	---
38-Tundra dwarf scrub, organic plains-----	0-6	Peat	0	0	---	---	---	---	---	---	---
	6-31	Mucky peat	0	0	---	---	---	---	---	---	---
	31-60	Permanently frozen silt, permanently frozen silt loam	0	0	100	100	95-100	95-100	5-35	65-90	0-10
38-Tundra sedge, organic depressions --	0-39	Peat	0	0	---	---	---	---	---	---	---
	39-49	Silt loam, sandy loam	0	0	100	100	65-90	40-60	35-70	25-60	5-15
	49-60	Silt loam	0	0	100	100	70-100	65-90	25-45	50-70	0-10



**Table 9. Physical Properties of the Soils**

(See text for definitions of terms used in this table. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
29DP03: 29-Noonku family, ponded-----	0-7 7-31 31-60	0.05-0.10 1.30-1.50 1.30-1.50	2-20 2-20 2-20	0.05-0.50 0.10-0.24 0.10-0.24	--- 1.0-3.0 1.0-3.0	75-95 0.5-1.0 0.5-1.0	--- .64 .64	--- .64 .64	5	8	0
29FP01: 29-Fubar family, frequent flooding----	0-6 6-11 11-60	1.15-1.40 1.35-1.50 1.40-1.70	2-20 2-20 6-20	0.06-0.15 0.01-0.06 0.02-0.04	1.0-2.9 1.0-3.0 0.0-2.9	0.5-1.0 0.5-1.0 1.0-3.0	.32 .24 .02	.32 .28 .10	5	3	86
29-Noonku family, frequent flooding -	0-7 7-31 31-60	0.05-0.10 1.30-1.50 1.30-1.50	2-20 2-20 2-20	0.05-0.50 0.10-0.24 0.10-0.24	--- 1.0-3.0 1.0-3.0	75-95 0.5-1.0 0.5-1.0	--- .64 .64	--- .64 .64	5	8	0
29FP02: 29-Salchaket family-----	0-1 1-3 3-28 28-60	0.07-0.18 0.90-1.15 1.00-1.15 1.10-1.25	0.06-2 2-20 0.2-2 0.2-2	0.25-0.50 0.17-0.26 0.21-0.28 0.13-0.25	--- 1.0-3.0 1.0-3.0 1.0-3.0	50-90 3.0-10 1.0-7.0 0.5-3.0	--- .49 .64 .55	--- .49 .64 .55	5	3	86
29FP03: 29-Chichantna family-----	0-18 18-60	0.05-0.35 0.20-0.55	2-20 0.001-0.2	0.05-0.35 0.40-0.60	--- ---	40-95 60-85	--- ---	--- ---	2	8	0
29VL02: 29-Urban land	---	---	---	---	---	---	---	---	-	---	---
30DP01: 30-Holitnafamily -----	0-43 43-60	0.05-0.10 1.20-1.40	6-100 1-14	0.05-0.35 0.08-0.21	--- 1.0-2.9	85-95 6.0-12	--- .10	--- .10	5	8	0
30DP03: 30-Oskawalikfamily -----	0-5 5-9 9-12 12-30 30-60	0.05-0.10 0.07-0.18 1.10-1.35 1.20-1.35 1.25-1.35	6-100 0.2-20 0.2-2 0.06-2 0.06-2	0.05-0.35 0.35-0.50 0.17-0.30 0.16-0.26 0.16-0.24	--- --- 1.0-2.9 1.0-2.9 1.0-2.9	85-95 75-90 4.0-12 3.0-7.0 0.3-0.7	--- --- .28 .43 .64	--- --- .32 .49 .64	5	8	0
30ES01: 30-Waterfall family -----	0-3 3-8 8-19 19-60	0.07-0.18 1.20-1.35 1.30-1.50 ---	0.2-20 2-20 2-20 0.000-0.001	0.27-0.50 0.06-0.22 0.02-0.17 ---	--- 1.0-3.0 1.0-3.0 ---	75-90 6.0-10 1.0-9.0 ---	--- .10 .10 ---	--- .17 .24 ---	1	3	86
30-Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
30-Sleetmute family -----	0-6 6-8 8-13 13-24 24-60	0.05-0.10 0.80-1.00 1.20-1.35 1.30-1.50 1.35-1.55	6-100 2-20 2-20 2-20 2-20	0.05-0.35 0.07-0.18 0.05-0.15 0.04-0.15 0.07-0.20	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	85-95 4.0-12 1.0-3.0 0.5-2.5 0.3-0.7	--- .28 .10 .10 .37	--- .43 .28 .28 .64	1	3	86

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
30FP01: 30-Takotna family -----	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Itulilikfamily -----	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	5-9	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	9-12	1.10-1.35	0.2-2	0.17-0.30	1.0-2.9	4.0-12	.28	.32			
	12-30	1.20-1.35	0.06-2	0.16-0.26	1.0-2.9	3.0-7.0	.43	.49			
	30-60	1.25-1.35	0.06-2	0.16-0.24	1.0-2.9	0.3-0.7	.64	.64			
30FP02: 30-Takotna family -----	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30FP03: 30-Takotna family -----	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Gerstle family -----	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-7	1.10-1.25	0.2-2	0.17-0.22	1.0-3.0	4.0-6.0	.43	.43			
	7-16	1.15-1.30	0.2-2	0.20-0.24	1.0-3.0	2.0-5.0	.55	.55			
	16-47	1.20-1.35	0.2-2	0.15-0.22	1.0-3.0	1.0-2.0	.64	.64			
	47-60	1.20-1.45	0.2-2	0.14-0.21	1.0-3.0	0.5-1.0	.64	.64			
30HI02: 30-Uknvikfamily -----	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	5-9	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	9-12	1.10-1.35	0.2-2	0.17-0.30	1.0-2.9	4.0-12	.28	.32			
	12-30	1.20-1.35	0.06-2	0.16-0.26	1.0-2.9	3.0-7.0	.43	.49			
	30-60	1.25-1.35	0.06-2	0.16-0.24	1.0-2.9	0.3-0.7	.64	.64			
30-Goldstream family -----	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	5-13	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	13-16	1.25-1.35	2-20	0.17-0.24	1.0-3.0	1.5-5.0	.37	.37			
	16-22	1.25-1.45	0.2-2	0.17-0.25	1.0-3.0	3.0-7.0	.37	.37			
	22-60	---	0.001-0.06	---	---	0.5-2.0	.43	.43			
30-Holitnafamily -----	0-43	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	43-60	1.20-1.40	1-14	0.08-0.21	1.0-2.9	6.0-12	.10	.10			
30KA02: 30-Kaviriuq-----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-3	0.55-0.65	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.49	.49			
	3-6	1.00-1.20	0.2-20	0.20-0.24	1.0-2.9	8.0-10	.24	.24			
	6-15	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	15-60	1.25-1.45	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
30KA08: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30-Kaviriuq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-3	0.55-0.65	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.49	.49			
	3-6	1.00-1.20	0.2-20	0.20-0.24	1.0-2.9	8.0-10	.24	.24			
	6-15	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	15-60	1.25-1.45	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30MA01: 30-Maquulluq -----	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	5-8	1.10-1.25	0.2-2	0.15-0.20	1.0-3.0	4.0-6.0	.43	.43			
	8-12	1.15-1.35	0.2-2	0.20-0.30	1.0-3.0	1.0-2.0	.55	.55			
	12-30	1.20-1.35	0.2-2	0.15-0.21	1.0-3.0	0.5-1.0	.64	.64			
	30-60	1.40-1.70	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.24	.28			
30NU02: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30NU03: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30NU04: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30NU05: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30NU06: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30NU07: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
30NU07: 30-Sleetmute family, hillslopes -----	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	9-12	0.80-1.20	0.2-20	0.13-0.22	1.0-3.0	1.5-5.0	.37	.37			
	12-18	1.10-1.30	0.2-20	0.15-0.25	1.0-3.0	1.0-2.2	.43	.43			
	18-28	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.5	.10	.37			
	28-60	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.0	.10	.28			
30NU08: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30-Sleetmute family, hillslope -----	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	9-12	0.80-1.20	0.2-20	0.13-0.22	1.0-3.0	1.5-5.0	.37	.37			
	12-18	1.10-1.30	0.2-20	0.15-0.25	1.0-3.0	1.0-2.2	.43	.43			
	18-28	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.5	.10	.37			
	28-60	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.0	.10	.28			
30NU12: 30-Nunaniq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	2-7	0.80-1.00	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.37	.37			
	7-14	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	14-35	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	35-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30-Teggiuq -----	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-10	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	10-22	0.90-1.25	0.2-2	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	22-30	1.35-1.55	0.06-2	0.23-0.25	1.0-2.9	2.0-14	.37	.37			
	30-46	1.45-1.65	0.001-0.2	0.20-0.24	1.0-2.9	1.0-2.0	.55	.55			
	46-60	---	0.000-0.001	---	---	0.0-1.0	.55	.55			
30-Kaviriuq -----	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-3	0.55-0.65	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.49	.49			
	3-6	1.00-1.20	0.2-20	0.20-0.24	1.0-2.9	8.0-10	.24	.24			
	6-15	1.20-1.40	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	15-60	1.25-1.45	0.2-2	0.20-0.24	1.0-2.9	0.0-1.0	.64	.64			
30OT01: 30-Aleknagik family -----	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	2	134
	1-3	1.10-1.20	0.2-20	0.18-0.22	1.0-2.9	4.0-6.0	.43	.43			
	3-6	1.10-1.20	0.2-20	0.18-0.26	1.0-2.9	5.0-8.0	.43	.43			
	6-32	1.25-1.40	0.2-2	0.18-0.24	1.0-2.9	1.0-2.0	.55	.55			
	32-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.5-1.0	.64	.64			
30-Bonasilafamily -----	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-7	1.10-1.25	0.2-2	0.17-0.22	1.0-3.0	4.0-6.0	.43	.43			
	7-16	1.15-1.30	0.2-2	0.20-0.24	1.0-3.0	2.0-5.0	.55	.55			
	16-47	1.20-1.35	0.2-2	0.15-0.22	1.0-3.0	1.0-2.0	.64	.64			
	47-60	1.20-1.45	0.2-2	0.14-0.21	1.0-3.0	0.5-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
30OT02:											
30-Uknavik family -----	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	5-9	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	9-12	1.10-1.35	0.2-2	0.17-0.30	1.0-2.9	4.0-12	.28	.32			
	12-30	1.20-1.35	0.06-2	0.16-0.26	1.0-2.9	3.0-7.0	.43	.49			
	30-60	1.25-1.35	0.06-2	0.16-0.24	1.0-2.9	0.3-0.7	.64	.64			
30-Noonku family -----	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	8	0
	1-28	1.25-1.50	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.10	.10			
	28-60	1.40-1.60	6-100	0.03-0.10	1.0-3.0	0.5-1.0	.05	.32			
30SL01:											
30-Sleetmute -----	0-3	0.07-0.18	0.2-20	0.27-0.50	---	75-90	---	---	1	3	86
	3-6	1.20-1.35	2-20	0.06-0.22	1.0-3.0	6.0-10	.10	.17			
	6-19	1.25-1.40	2-20	0.05-0.22	1.0-3.0	1.0-10	.10	.10			
	19-60	1.30-1.50	2-20	0.02-0.17	1.0-3.0	1.0-9.0	.10	.24			
30TE01:											
30-Liscum family -----	0-6	0.05-0.10	6-100	0.05-0.35	---	40-95	---	---	5	8	0
	6-15	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---			
	15-26	1.25-1.40	0.2-2	0.15-0.24	1.0-3.0	4.0-6.0	.43	.43			
	26-60	1.25-1.40	0.2-20	0.15-0.24	1.0-2.9	0.5-2.0	.55	.55			
30-Hufman family -----	0-53	0.05-0.35	2-20	0.05-0.35	---	40-95	---	---	2	8	0
	53-60	1.25-1.45	0.2-2	0.05-0.20	1.0-2.9	0.5-1.5	.24	.24			
30TQ01:											
30-Teggiuq -----	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-10	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	10-22	0.90-1.25	0.2-2	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	22-30	1.35-1.55	0.06-2	0.23-0.25	1.0-2.9	2.0-14	.37	.37			
	30-46	1.45-1.65	0.001-0.2	0.20-0.24	1.0-2.9	1.0-2.0	.55	.55			
	46-60	---	0.000-0.001	---	---	0.0-1.0	.55	.55			
30TQ02:											
30-Teggiuq -----	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-10	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	10-22	0.90-1.25	0.2-2	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	22-30	1.35-1.55	0.06-2	0.23-0.25	1.0-2.9	2.0-14	.37	.37			
	30-46	1.45-1.65	0.001-0.2	0.20-0.24	1.0-2.9	1.0-2.0	.55	.55			
	46-60	---	0.000-0.001	---	---	0.0-1.0	.55	.55			
30TQ03:											
30-Teggiuq -----	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-10	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	10-22	0.90-1.25	0.2-2	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	22-30	1.35-1.55	0.06-2	0.23-0.25	1.0-2.9	2.0-14	.37	.37			
	30-46	1.45-1.65	0.001-0.2	0.20-0.24	1.0-2.9	1.0-2.0	.55	.55			
	46-60	---	0.000-0.001	---	---	0.0-1.0	.55	.55			
30VL01:											
30-Urban land -----	---	---	---	---	---	---	---	---	-	---	---
30VL02:											
30-Urban land -----	---	---	---	---	---	---	---	---	-	---	---
38DP01:											
38-Teggiuq family -----	0-24	0.07-0.30	6-100	0.05-0.50	---	85-95	---	---	1	8	0
	24-31	1.25-1.35	0.2-2	0.14-0.24	1.0-2.9	1.0-3.0	.43	.43			
	31-60	---	0.000-0.001	---	---	0.0-1.0	---	---			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
38DP03: 38-Uknavikfamily -----	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
38ES01: 38-Uknavikfamily, steep -----	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
38FP01: 38-Salchaket family -----	0-1	0.10-0.30	0.2-20	0.05-0.45	---	70-90	---	---	5	5	56
	1-3	0.90-1.15	2-20	0.19-0.31	1.0-2.9	3.0-9.0	.49	.49			
	3-28	1.00-1.15	0.2-2	0.19-0.27	1.0-2.9	1.0-5.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.13-0.28	1.0-2.9	1.0-5.0	.55	.55			
38-Happy family -----	0-6	0.10-0.30	0.2-20	0.05-0.45	---	70-90	---	---	2	8	0
	6-11	1.10-1.25	2-20	0.18-0.30	1.0-2.9	6.0-9.0	.49	.49			
	11-22	1.15-1.40	0.2-2	0.15-0.26	1.0-2.9	1.0-7.0	.64	.64			
	22-60	---	0.000-0.001	---	---	0.5-3.0	---	---			
38FP02: 38-Uknavikfamily -----	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
38-Karheen family -----	0-7	0.07-0.30	6-100	0.05-0.40	---	85-95	---	---	5	8	0
	7-22	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	22-60	0.20-0.30	0.06-2	0.40-0.60	---	60-85	---	---			
38FP03: 38-Takotna family, frequent flooding-	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.17-0.26	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.21-0.28	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.10-1.25	0.2-2	0.13-0.25	1.0-3.0	0.5-3.0	.55	.55			
38-Noonku family, frequent flooding -	0-7	0.05-0.10	2-20	0.05-0.50	---	75-95	---	---	5	8	0
	7-31	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
	31-60	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
38TE01: 38-Teggiuq family -----	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			
38TE03: 38-Inmachuk family -----	0-24	0.07-0.30	6-100	0.05-0.50	---	85-95	---	---	1	8	0
	24-31	1.25-1.35	0.2-2	0.14-0.24	1.0-2.9	1.0-3.0	.43	.43			
	31-60	---	0.000-0.001	---	---	0.0-1.0	---	---			
38-Teggiuq family -----	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
38UL01: 38-Ulesqiirluni-----	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
38UL02: 38-Ulesqiirluni-----	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
38-Uknavikfamily-----	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
38UT01: 38-Ulet-----	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	1	2	134
	2-6	1.10-1.30	2-20	0.16-0.24	1.0-2.9	3.0-5.0	.24	.24			
	6-9	1.20-1.45	2-100	0.12-0.18	1.0-2.9	0.5-1.0	.05	.32			
	9-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
38VL02: 38-Urban land-----	---	---	---	---	---	---	---	---	-	---	---
D29FPA: 29-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.17-0.26	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.21-0.28	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.10-1.25	0.2-2	0.13-0.25	1.0-3.0	0.5-3.0	.55	.55			
29-Boreal scrub, loamy flood plains, frequent flooding-----	0-10	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64	2	8	0
	10-17	1.00-1.15	0.2-2	0.17-0.30	1.0-2.9	1.0-7.0	.64	.64			
	17-39	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
	39-60	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
D29FPB: 29-Boreal forest, sandy flood plains--	0-2	0.05-0.10	2-20	0.05-0.35	---	40-95	---	---	3	3	86
	2-10	0.90-1.15	0.2-2	0.20-0.24	1.0-3.0	6.0-10	.24	.24			
	10-20	1.15-1.35	0.2-20	0.18-0.27	1.0-2.9	2.0-3.5	.24	.24			
	20-60	1.40-1.60	2-20	0.02-0.10	1.0-3.0	0.5-1.0	.05	.32			
29-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.17-0.26	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.21-0.28	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.10-1.25	0.2-2	0.13-0.25	1.0-3.0	0.5-3.0	.55	.55			
D29FPC: 29-Boreal grass, loamy flood plains--	0-2	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	5	8	0
	2-9	1.15-1.30	2-6	0.12-0.25	1.0-2.9	3.0-7.0	.37	.37			
	9-18	1.25-1.45	2-6	0.12-0.25	1.0-2.9	1.0-4.0	.37	.37			
	18-60	1.25-1.55	2-6	0.06-0.20	1.0-2.9	0.5-4.0	.43	.43			
29-Boreal scrub, loamy depressions--	0-7	0.05-0.10	2-20	0.05-0.50	---	75-95	---	---	5	8	0
	7-31	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
	31-60	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
D29FPE:											
29-Boreal scrub, loamy flood plains, frequent flooding	0-10	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64	2	8	0
	10-17	1.00-1.15	0.2-2	0.17-0.30	1.0-2.9	1.0-7.0	.64	.64			
	17-39	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
	39-60	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
29-Boreal forest, loamy flood plains, frequent flooding											
0-1	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.17-0.26	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.21-0.28	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.10-1.25	0.2-2	0.13-0.25	1.0-3.0	0.5-3.0	.55	.55			
D29FPG:											
29-Boreal grass, organic depressions	0-53	0.05-0.35	2-20	0.05-0.35	---	40-95	---	---	2	8	0
	53-60	1.25-1.45	0.2-2	0.05-0.20	1.0-2.9	0.5-1.5	.24	.24			
29-Boreal scrub, loamy depressions-	0-7	0.05-0.10	2-20	0.05-0.50	---	75-95	---	---	5	8	0
	7-31	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
	31-60	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
D29TEA:											
29-Boreal woodland, loamy terraces-	0-4	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	2	134
	4-12	1.10-1.25	0.2-2	0.11-0.26	1.0-2.9	4.0-6.0	.43	.43			
	12-22	1.15-1.35	0.2-2	0.07-0.23	1.0-2.9	1.0-2.0	.64	.64			
	22-43	1.20-1.35	0.2-2	0.09-0.24	1.0-2.9	0.5-1.0	.64	.64			
	43-60	1.20-1.35	2-20	0.02-0.20	1.0-2.9	0.5-1.0	.37	.37			
29-Boreal scrub, loamy flood plains, rare flooding	0-10	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64	2	8	0
	10-17	1.00-1.15	0.2-2	0.17-0.30	1.0-2.9	1.0-7.0	.64	.64			
	17-39	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
	39-60	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
29-Boreal woodland, sandy terraces-	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	5-8	1.10-1.25	0.2-2	0.15-0.20	1.0-3.0	4.0-6.0	.43	.43			
	8-12	1.15-1.35	0.2-2	0.20-0.30	1.0-3.0	1.0-2.0	.55	.55			
	12-30	1.20-1.35	0.2-2	0.15-0.21	1.0-3.0	0.5-1.0	.64	.64			
	30-60	1.40-1.70	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.28	.28			
D29TEB:											
29-Boreal grass, organic flood plains, rare flooding	0-47	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	2	8	0
	47-51	0.05-0.35	2-20	0.05-0.45	---	40-95	---	---			
	51-60	1.20-1.35	0.2-2	0.05-0.15	1.0-2.9	0.5-1.0	.64	.64			
29-Boreal scrub, loamy depressions-	0-7	0.05-0.10	2-20	0.05-0.50	---	75-95	---	---	5	8	0
	7-31	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
	31-60	1.30-1.50	2-20	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
D29TEC:											
29-Boreal grass, organic flood- plains, rare flooding	0-47	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	2	8	0
	47-51	0.05-0.35	2-20	0.05-0.45	---	40-95	---	---			
	51-60	1.20-1.35	0.2-2	0.05-0.15	1.0-2.9	0.5-1.0	.64	.64			
29-Boreal scrub, organic depressions	0-18	0.05-0.10	2-20	0.05-0.35	---	40-95	---	---	5	8	0
	18-60	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
D30FAC:											
30-Boreal forest, loamy fans	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	5-9	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	9-12	1.10-1.35	0.2-2	0.17-0.30	1.0-2.9	4.0-12	.28	.32			
	12-30	1.20-1.35	0.06-2	0.16-0.26	1.0-2.9	3.0-7.0	.43	.49			
	30-60	1.25-1.35	0.06-2	0.16-0.24	1.0-2.9	0.3-0.7	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>D30FAC:</b>											
30-Boreal scrub, loamy fans -----	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-15	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	15-17	1.10-1.35	2-20	0.17-0.23	1.0-2.9	4.0-12	.28	.32			
	17-22	1.25-1.45	2-20	0.17-0.20	1.0-2.9	3.0-7.0	.43	.49			
	22-60	---	0.000-0.001	---	---	---	.43	.64			
30-Boreal forest, loamy terraces -----	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-7	1.10-1.25	0.2-2	0.17-0.22	1.0-3.0	4.0-6.0	.43	.43			
	7-16	1.15-1.30	0.2-2	0.20-0.24	1.0-3.0	2.0-5.0	.55	.55			
	16-47	1.20-1.35	0.2-2	0.15-0.22	1.0-3.0	1.0-2.0	.64	.64			
	47-60	1.20-1.45	0.2-2	0.14-0.21	1.0-3.0	0.5-1.0	.64	.64			
30-Boreal sedge, loamy ----- depressions, occasional flooding	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-10	0.90-1.30	2-20	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	10-37	1.00-1.40	0.2-2	0.18-0.26	1.0-2.9	3.0-10	.55	.55			
	37-60	1.23-1.45	0.2-2	0.20-0.24	1.0-2.9	0.5-2.0	.55	.55			
<b>D30FAD:</b>											
30-Boreal scrub, gravelly drainages,- outwash fan	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	8	0
	1-28	1.25-1.50	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.10	.10			
	28-60	1.40-1.60	6-100	0.03-0.10	1.0-3.0	0.5-1.0	.05	.32			
30-Boreal scrub, loamy ----- drainages, outwash fan	0-8	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	8	0
	8-10	1.15-1.30	0.2-2	0.20-0.24	1.0-3.0	6.0-12	.10	.10			
	10-25	1.20-1.35	0.2-2	0.16-0.22	1.0-3.0	2.0-6.0	.43	.43			
	25-60	1.40-1.60	6-100	0.01-0.03	1.0-3.0	0.5-1.0	.05	.32			
<b>D30FPA:</b>											
30-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Boreal forest, sandy flood plains--	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	1-3	0.90-1.15	0.2-2	0.12-0.18	1.0-3.0	6.0-10	.24	.24			
	3-41	1.30-1.50	2-20	0.02-0.13	1.0-3.0	3.0-5.0	.32	.32			
	41-60	1.40-1.60	2-20	0.02-0.05	1.0-3.0	0.5-1.0	.32	.32			
<b>D30FPD:</b>											
30-Boreal sedge, loamy depressions	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-10	0.90-1.30	2-20	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	10-37	1.00-1.40	0.2-2	0.18-0.26	1.0-2.9	3.0-10	.55	.55			
	37-60	1.23-1.45	0.2-2	0.20-0.24	1.0-2.9	0.5-2.0	.55	.55			
30-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Water-----	---	---	---	---	---	---	---	-	---	---	
<b>D30FPE:</b>											
30-Boreal scrub, gravelly flood ----- plains, frequent flooding	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	1-4	1.25-1.45	2-20	0.05-0.13	1.0-2.9	2.0-4.0	.37	.37			
	4-47	1.35-1.55	2-20	0.00-0.05	1.0-2.9	0.5-2.0	.05	.32			
	47-60	1.35-1.55	2-20	0.00-0.02	1.0-2.9	0.5-2.0	.32	.49			
30-Boreal scrub, silty----- flood plains, frequent flooding	0-10	0.07-0.30	2-20	0.35-0.50	---	75-90	---	---	5	2	134
	10-22	1.10-1.30	0.2-2	0.21-0.34	1.0-3.0	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.21-0.33	1.0-3.0	0.5-2.0	.55	.55			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
D30FPF:											
30-Boreal scrub, silty flood plains----	0-10	0.07-0.30	2-20	0.35-0.50	---	75-90	---	---	5	2	134
	10-22	1.10-1.30	0.2-2	0.21-0.34	1.0-3.0	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.21-0.33	1.0-3.0	0.5-2.0	.55	.55			
30-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
D30FPH:											
30-Boreal scrub, loamy flood plains--	0-6	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	8	0
	6-11	0.90-1.15	2-20	0.40-0.42	1.0-3.0	3.0-10	.49	.49			
	11-18	1.00-1.20	0.2-2	0.38-0.40	1.0-3.0	1.0-7.0	.64	.64			
	18-30	1.00-1.25	0.2-2	0.38-0.40	1.0-3.0	1.0-7.0	.64	.64			
	30-60	---	0.001-0.06	0.35-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Boreal scrub, silty flood plains----	0-10	0.07-0.30	2-20	0.35-0.50	---	75-90	---	---	5	2	134
	10-22	1.10-1.30	0.2-2	0.21-0.34	1.0-3.0	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.21-0.33	1.0-3.0	0.5-2.0	.55	.55			
30-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
D30HIA:											
30-Boreal forest, silty eolian slopes --	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-5	0.60-1.00	0.2-2	0.16-0.20	1.0-3.0	4.0-10	.32	.32			
	5-11	0.90-1.20	0.2-2	0.16-0.20	1.0-3.0	1.0-2.0	.55	.55			
	11-30	1.10-1.35	0.2-2	0.21-0.27	1.0-3.0	1.0-2.0	.64	.64			
	30-60	1.20-1.40	0.2-2	0.17-0.22	1.0-3.0	0.3-0.7	.64	.64			
30-Boreal forest, loamy----- eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
30-Boreal forest,----- gravelly colluvial slopes	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	5	56
	3-5	1.00-1.25	2-20	0.18-0.25	1.0-2.9	3.0-7.0	.20	.37			
	5-14	1.15-1.30	2-20	0.10-0.18	1.0-2.9	1.0-3.0	.15	.37			
	14-20	1.25-1.35	2-20	0.08-0.12	1.0-2.9	1.0-2.2	.10	.37			
	20-60	1.30-1.40	2-20	0.05-0.11	1.0-2.9	0.5-1.5	.10	.37			
D30HIB:											
30-Boreal forest, silty eolian slopes --	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-5	0.60-1.00	0.2-2	0.16-0.20	1.0-3.0	4.0-10	.32	.32			
	5-11	0.90-1.20	0.2-2	0.16-0.20	1.0-3.0	1.0-2.0	.55	.55			
	11-30	1.10-1.35	0.2-2	0.21-0.27	1.0-3.0	1.0-2.0	.64	.64			
	30-60	1.20-1.40	0.2-2	0.17-0.22	1.0-3.0	0.3-0.7	.64	.64			
30-Boreal taiga, loamy eolian slopes	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-11	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	11-16	1.30-1.40	0.2-2	0.23-0.29	1.0-2.9	5.0-9.0	.43	.43			
	16-31	1.40-1.50	0.06-2	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	31-60	---	0.000-0.001	---	---	0.5-2.0	.55	.55			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
D30HIB: 30-Boreal scrub-sedge,----- loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	8	0
	4-8	0.62-1.15	0.06-2	0.15-0.24	1.0-2.9	6.0-10	.32	.32			
	8-12	1.25-1.45	0.06-2	0.18-0.21	1.0-2.9	3.0-8.0	.49	.49			
	12-60	1.30-1.50	0.06-2	0.17-0.20	1.0-2.9	1.0-3.0	.64	.64			
D30MTA: 30-Boreal forest, loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
30-Boreal woodland,----- loamy eolian slopes	0-2	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	2	134
	2-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	4-8	1.15-1.35	0.2-2	0.18-0.24	1.0-2.9	4.0-6.0	.32	.32			
	8-10	1.25-1.45	0.2-2	0.18-0.24	1.0-2.9	1.0-2.0	.55	.55			
	10-60	1.30-1.50	0.2-2	0.18-0.24	1.0-2.9	0.5-1.0	.55	.55			
30-Subalpine scrub,----- gravelly colluvial slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	5	56
	2-6	1.30-1.50	2-20	0.06-0.22	1.0-3.0	7.0-11	.10	.17			
	6-16	1.35-1.60	2-20	0.10-0.18	1.0-3.0	1.0-10	.10	.10			
	16-24	1.40-1.70	2-20	0.05-0.16	1.0-3.0	1.0-12	.10	.24			
	24-60	1.50-1.70	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
D30MTB: 30-Boreal woodland,----- loamy eolian slopes	0-2	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	2	134
	2-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	4-8	1.15-1.35	0.2-2	0.18-0.24	1.0-2.9	4.0-6.0	.32	.32			
	8-10	1.25-1.45	0.2-2	0.18-0.24	1.0-2.9	1.0-2.0	.55	.55			
	10-60	1.30-1.50	0.2-2	0.18-0.24	1.0-2.9	0.5-1.0	.55	.55			
30-Boreal taiga, loamy eolian slopes	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-11	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	11-16	1.30-1.40	0.2-2	0.23-0.29	1.0-2.9	5.0-9.0	.43	.43			
	16-31	1.40-1.50	0.06-2	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	31-60	---	0.000-0.001	---	---	0.5-2.0	.55	.55			
30-Boreal forest, loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
D30MTC: 30-Boreal forest,----- gravelly colluvial slopes	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	5	56
	3-5	1.00-1.25	2-20	0.18-0.25	1.0-2.9	3.0-7.0	.20	.37			
	5-14	1.15-1.30	2-20	0.10-0.18	1.0-2.9	1.0-3.0	.15	.37			
	14-20	1.25-1.35	2-20	0.08-0.12	1.0-2.9	1.0-2.2	.10	.37			
	20-60	1.30-1.40	2-20	0.05-0.11	1.0-2.9	0.5-1.5	.10	.37			
30-Boreal woodland,----- loamy colluvial slopes	0-11	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	11-15	0.80-1.00	0.2-20	0.20-0.28	1.0-3.0	4.0-10	.43	.43			
	15-18	1.10-1.25	0.2-20	0.20-0.27	1.0-3.0	1.0-2.0	.64	.64			
	18-60	1.20-1.50	2-20	0.10-0.15	1.0-3.0	0.3-0.7	.37	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>D30MTC:</b>											
30-Subalpine scrub, ----- gravelly colluvial slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	5	56
	2-6	1.30-1.50	2-20	0.06-0.22	1.0-3.0	7.0-11	.10	.17			
	6-16	1.35-1.60	2-20	0.10-0.18	1.0-3.0	1.0-10	.10	.10			
	16-24	1.40-1.70	2-20	0.05-0.16	1.0-3.0	1.0-12	.10	.24			
	24-60	1.50-1.70	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
<b>D30MTD:</b>											
30-Boreal woodland, ----- gravelly colluvial slopes	0-6	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	6-8	0.80-1.00	2-20	0.07-0.18	1.0-2.9	4.0-10	.43	.43			
	8-13	1.20-1.35	2-20	0.05-0.15	1.0-2.9	1.0-3.0	.10	.28			
	13-24	1.30-1.50	2-20	0.04-0.15	1.0-2.9	0.5-2.5	.10	.28			
	24-60	1.35-1.55	2-20	0.07-0.20	1.0-2.9	0.3-0.7	.37	.64			
30-Boreal taiga, loamy ----- colluvial slopes	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	5-13	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	13-16	1.25-1.35	2-20	0.17-0.24	1.0-3.0	1.5-5.0	.37	.37			
	16-22	1.25-1.45	0.2-2	0.17-0.25	1.0-3.0	3.0-7.0	.37	.37			
	22-60	---	0.001-0.06	---	---	0.5-2.0	.43	.43			
30-Subalpine scrub, ----- gravelly colluvial slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	5	56
	2-6	1.30-1.50	2-20	0.06-0.22	1.0-3.0	7.0-11	.10	.17			
	6-16	1.35-1.60	2-20	0.10-0.18	1.0-3.0	1.0-10	.10	.10			
	16-24	1.40-1.70	2-20	0.05-0.16	1.0-3.0	1.0-12	.10	.24			
	24-60	1.50-1.70	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
<b>D30TEA:</b>											
30-Boreal woodland, ----- sandy terraces	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	5-8	1.10-1.25	0.2-2	0.15-0.20	1.0-3.0	4.0-6.0	.43	.43			
	8-12	1.15-1.35	0.2-2	0.20-0.30	1.0-3.0	1.0-2.0	.55	.55			
	12-30	1.20-1.35	0.2-2	0.15-0.21	1.0-3.0	0.5-1.0	.64	.64			
	30-60	1.40-1.70	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.24	.28			
30-Boreal woodland, ----- loamy terraces	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	4-12	1.10-1.25	0.2-2	0.20-0.24	1.0-2.9	4.0-6.0	.43	.43			
	12-22	1.15-1.35	0.2-2	0.20-0.24	1.0-2.9	1.0-2.0	.64	.64			
	22-43	1.20-1.35	0.2-2	0.20-0.24	1.0-2.9	0.5-1.0	.64	.64			
	43-60	1.40-1.70	2-20	0.05-0.17	1.0-2.9	0.5-1.0	.37	.37			
30-Boreal woodland, ----- gravelly terraces	0-7	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	5	56
	7-11	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	11-16	1.10-1.30	0.2-2	0.10-0.24	1.0-3.0	5.0-10	.37	.37			
	16-27	1.20-1.40	0.2-2	0.20-0.24	1.0-3.0	5.0-10	.37	.37			
	27-60	1.25-1.45	2-20	0.02-0.06	1.0-3.0	0.5-2.0	.15	.10			
<b>D30TEB:</b>											
30-Boreal scrub, silty terraces -----	0-4	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	4-7	1.15-1.25	0.2-20	0.17-0.24	1.0-2.9	5.0-9.0	.32	.32			
	7-9	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	9-13	1.25-1.45	0.2-2	0.16-0.20	1.0-2.9	1.0-2.0	.55	.55			
	13-23	1.20-1.35	0.2-2	0.18-0.22	1.0-2.9	1.0-2.0	.55	.55			
	23-60	1.25-1.40	0.06-2	0.16-0.20	1.0-2.9	1.0-2.0	.55	.55			
30-Boreal sedge, loamy ----- depressions	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-10	0.90-1.30	2-20	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	10-37	1.00-1.40	0.2-2	0.18-0.26	1.0-2.9	3.0-10	.55	.55			
	37-60	1.23-1.45	0.2-2	0.20-0.24	1.0-2.9	0.5-2.0	.55	.55			
30-Boreal scrub, organic ----- depressions	0-39	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	8	0
	39-47	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---			
	47-60	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>D30TEF:</b>											
30-Boreal scrub-sedge, loamy terraces	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	3-10	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	10-17	1.10-1.20	0.2-2	0.17-0.25	1.0-2.9	3.0-10	.43	.43			
	17-26	1.25-1.45	0.2-2	0.16-0.24	1.0-2.9	2.0-8.0	.43	.43			
	26-60	---	0.000-0.001	---	---	0.0-1.0	.64	.64			
<b>30-Boreal scrub, loamy terraces</b>											
30-Boreal scrub, loamy terraces	0-16	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	16-25	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	25-28	0.62-1.15	0.2-2	0.20-0.24	1.0-2.9	6.0-10	.32	.32			
	28-30	1.25-1.45	0.001-0.2	0.15-0.17	1.0-2.9	3.0-8.0	.49	.49			
	30-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
<b>30-Boreal taiga, loamy terraces</b>											
30-Boreal taiga, loamy terraces	0-10	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	10-13	1.20-1.40	2-20	0.20-0.25	1.0-2.9	3.0-12	.10	.10			
	13-29	1.25-1.40	0.2-2	0.19-0.25	1.0-2.9	2.0-8.0	.37	.37			
	29-60	---	0.000-0.001	---	---	0.0-1.0	.55	.55			
<b>D30TEG:</b>											
30-Boreal scrub, organic terraces	0-24	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	24-59	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	59-60	0.20-0.55	0.001-0.2	0.40-0.55	---	60-85	---	---			
<b>30-Boreal sedge, loamy depressions</b>											
30-Boreal sedge, loamy depressions	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-10	0.90-1.30	2-20	0.40-0.42	1.0-2.9	3.0-10	.49	.49			
	10-37	1.00-1.40	0.2-2	0.18-0.26	1.0-2.9	3.0-10	.55	.55			
	37-60	1.23-1.45	0.2-2	0.20-0.24	1.0-2.9	0.5-2.0	.55	.55			
<b>D38FPA:</b>											
38-Boreal forest, silty flood plains, occasional flooding	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
<b>38-Boreal scrub, silty flood plains, moderately wet</b>											
38-Boreal scrub, silty flood plains, moderately wet	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
<b>D38FPB:</b>											
38-Boreal forest, sandy flood plains	0-2	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	3	5	56
	2-8	0.90-1.15	2-20	0.16-0.26	1.0-2.9	3.0-9.0	.24	.24			
	8-39	1.00-1.15	2-20	0.13-0.26	1.0-2.9	1.0-5.0	.32	.32			
	39-60	1.25-1.45	2-100	0.02-0.10	1.0-2.9	0.5-1.0	.32	.32			
<b>38-Boreal scrub, silty flood plains</b>											
38-Boreal scrub, silty flood plains	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
<b>38-Boreal scrub, sandy flood plains</b>											
38-Boreal scrub, sandy flood plains	0-3	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	1	2	134
	3-7	1.10-1.30	2-20	0.16-0.24	1.0-2.9	3.0-5.0	.24	.24			
	7-60	1.20-1.45	2-100	0.12-0.18	1.0-2.9	0.5-1.0	.05	.32			
<b>D38FPC:</b>											
38-Boreal scrub, silty flood plains	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
<b>38-Boreal sedge, loamy depressions, occasional flooding</b>											
38-Boreal sedge, loamy depressions, occasional flooding	0-1	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-28	1.10-1.35	0.2-2	0.16-0.26	1.0-2.9	3.0-12	.55	.55			
	28-60	1.15-1.40	0.2-2	0.10-0.25	1.0-2.9	0.5-2.0	.55	.55			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
D38FPC:											
38-Boreal grass, organic flood plains	0-47	0.10-0.30	0.2-20	0.15-0.50	---	70-90	---	---	2	8	0
	47-51	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---			
	51-60	1.20-1.45	2-20	0.18-0.27	1.0-2.9	0.5-1.0	.64	.64			
D38FPD:											
38-Boreal scrub, silty flood plains-----	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
38-Boreal forest, silty flood plains ----	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
D38FPE:											
38-Boreal scrub, gravelly----- flood plains, frequent flooding	0-4	1.40-1.50	2-20	0.06-0.08	1.0-2.9	2.0-4.0	.37	.37	1	3	86
	4-47	1.45-1.60	6-100	0.02-0.10	1.0-2.9	1.0-3.0	.05	.32			
	47-60	1.45-1.65	6-100	0.03-0.10	1.0-2.9	0.5-2.5	.32	.49			
38-Boreal scrub, silty----- flood plains, frequent flooding	0-4	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
D38FPF:											
38-Boreal scrub, loamy flood----- plains, Yukon Delta	0-6	0.10-0.30	0.2-20	0.05-0.45	---	70-90	---	---	2	8	0
	6-11	1.10-1.25	2-20	0.18-0.30	1.0-2.9	6.0-9.0	.49	.49			
	11-30	1.15-1.40	0.2-2	0.15-0.26	1.0-2.9	1.0-7.0	.64	.64			
	30-60	---	0.000-0.001	---	---	0.5-3.0	.55	.55			
38-Boreal forest, silty flood ----- plains, moderately wet	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
38-Boreal taiga, organic----- terraces, rare flooding	0-20	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	1	8	0
	20-25	0.10-0.30	0.2-20	0.15-0.55	---	70-90	---	---			
	25-32	1.25-1.35	0.2-2	0.14-0.23	1.0-2.9	2.0-14	.37	.37			
	32-60	---	0.000-0.001	---	---	0.0-1.0	---	---			
D38HIB:											
38-Boreal scrub, loamy----- eolian slopes, frozen, wet	0-15	0.07-0.30	6-100	0.13-0.17	---	85-95	---	---	2	8	0
	15-28	1.10-1.25	2-20	0.17-0.25	1.0-2.9	5.0-9.0	.43	.43			
	28-42	1.20-1.40	2-20	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	42-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
38-Boreal woodland, loamy ----- eolian slopes, Yukon-Kuskokwim Coastal Plain	0-4	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---	5	3	86
	4-8	1.10-1.25	2-20	0.15-0.25	1.0-2.9	4.0-8.0	.32	.32			
	8-11	1.15-1.30	2-20	0.15-0.25	1.0-2.9	3.0-6.0	.55	.55			
	11-19	1.20-1.30	2-20	0.15-0.25	1.0-2.9	3.0-6.0	.55	.55			
	19-60	1.25-1.35	2-20	0.14-0.24	1.0-2.9	0.5-1.0	.55	.55			
38-Boreal scrub-sedge,----- loamy terraces, frozen	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>D38TEB:</b>											
38-Boreal sedge, loamy depressions -----	0-1	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	1-7	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	7-28	1.10-1.35	0.2-2	0.16-0.26	1.0-2.9	3.0-10	.55	.55			
	28-60	1.15-1.40	0.2-2	0.10-0.25	1.0-2.9	0.5-2.0	.55	.55			
38-Boreal sedge, organic depressions -----	0-7	0.07-0.30	6-100	0.05-0.40	---	85-95	---	---	5	8	0
	7-22	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	22-60	0.20-0.30	0.06-2	0.40-0.60	---	60-85	---	---			
38-Boreal forest, silty flood plains, rare flooding -----	0-2	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	5	5	56
	2-6	0.90-1.15	2-20	0.40-0.45	1.0-2.9	3.0-9.0	.49	.49			
	6-37	1.00-1.15	0.2-2	0.35-0.45	1.0-2.9	1.0-5.0	.64	.64			
	37-55	1.00-1.15	0.2-2	0.40-0.45	1.0-2.9	1.0-5.0	.49	.49			
	55-60	1.00-1.25	0.2-2	0.30-0.40	1.0-2.9	1.0-5.0	.55	.55			
38-Boreal scrub-sedge, loamy terraces -----	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			
38-Water	---	---	---	---	---	---	---	-	---	---	
<b>D38TEC:</b>											
38-Boreal taiga, organic terraces -----	0-20	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	1	8	0
	20-25	0.10-0.30	0.2-20	0.15-0.55	---	70-90	---	---			
	25-32	1.25-1.35	0.2-2	0.14-0.23	1.0-2.9	2.0-14	.37	.37			
	32-60	---	0.000-0.001	---	---	0.0-1.0	---	---			
38-Boreal scrub-sedge, loamy terraces -----	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			
38-Boreal dwarf scrub, silty terraces -----	0-12	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	12-13	1.00-1.15	2-20	0.35-0.43	1.0-2.9	11-12	.10	.10			
	13-22	1.25-1.35	0.2-2	0.17-0.28	1.0-2.9	1.5-3.5	.43	.43			
	22-47	1.25-1.35	0.2-2	0.16-0.27	1.0-2.9	1.0-3.0	.43	.43			
	47-60	1.30-1.50	0.2-2	0.15-0.26	1.0-2.9	1.0-3.0	.55	.55			
<b>D38TED:</b>											
38-Boreal scrub-sedge, loamy terraces -----	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			
38-Boreal scrub, loamy terraces -----	0-4	0.20-0.30	0.06-2	0.35-0.50	---	60-85	---	---	2	3	86
	4-8	0.90-1.25	2-20	0.15-0.26	1.0-2.9	4.0-6.0	.43	.43			
	8-14	1.15-1.30	2-20	0.18-0.24	1.0-2.9	1.0-2.0	.55	.55			
	14-22	1.20-1.35	2-20	0.17-0.23	1.0-2.9	1.0-2.0	.64	.64			
	22-60	1.25-1.40	2-20	0.16-0.23	1.0-2.9	0.5-1.0	.55	.55			
38-Boreal scrub-sedge, organic terraces -----	0-24	0.07-0.30	6-100	0.05-0.50	---	85-95	---	---	1	8	0
	24-31	1.25-1.35	0.2-2	0.14-0.24	1.0-2.9	1.0-3.0	.43	.43			
	31-60	---	0.000-0.001	---	---	0.0-1.0	---	---			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R29FPC:											
29-Boreal forest,----- gravelly flood plains	0-3	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	3	3	86
	3-5	1.15-1.35	0.2-20	0.18-0.27	1.0-2.9	2.0-3.5	.24	.24			
	5-12	1.20-1.35	0.2-20	0.17-0.26	1.0-2.9	1.0-2.0	.37	.37			
	12-43	1.25-1.50	0.2-20	0.16-0.26	1.0-2.9	1.0-4.0	.64	.64			
	43-60	1.35-1.55	6-100	0.00-0.05	1.0-2.9	0.5-1.0	.05	.32			
29-Boreal forest, loamy flood plains--											
	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.17-0.26	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.21-0.28	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.10-1.25	0.2-2	0.13-0.25	1.0-3.0	0.5-3.0	.55	.55			
29-Boreal grass, organic flood plains											
	0-47	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	2	8	0
	47-51	0.05-0.35	2-20	0.05-0.45	---	40-95	---	---			
	51-60	1.20-1.35	0.2-2	0.05-0.15	1.0-2.9	0.5-1.0	.64	.64			
R29FPD:											
29-Boreal scrub, loamy flood plains--	0-10	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64	2	8	0
	10-17	1.00-1.15	0.2-2	0.17-0.30	1.0-2.9	1.0-7.0	.64	.64			
	17-39	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
	39-60	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
29-Boreal grass, loamy flood plains--											
	0-2	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	5	8	0
	2-9	1.15-1.30	2-6	0.12-0.25	1.0-2.9	3.0-7.0	.37	.37			
	9-18	1.25-1.45	2-6	0.12-0.25	1.0-2.9	1.0-4.0	.37	.37			
	18-60	1.25-1.55	2-6	0.06-0.20	1.0-2.9	0.5-4.0	.43	.43			
R29FPE:											
29-Boreal scrub, organic flood plains	0-28	0.07-0.18	2-20	0.25-0.50	---	50-90	---	---	2	8	0
	28-33	1.20-1.35	0.2-2	0.10-0.24	1.0-2.9	0.5-1.0	.64	.64			
	33-60	---	0.000-0.001	---	1.0-3.0	0.5-3.0	.55	.55			
29-Boreal grass, organic flood plains											
	0-47	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	2	8	0
	47-51	0.05-0.35	2-20	0.05-0.45	---	40-95	---	---			
	51-60	1.20-1.35	0.2-2	0.05-0.15	1.0-2.9	0.5-1.0	.64	.64			
R29FPF:											
29-Boreal forest, gravelly flood----- plains	0-3	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	3	3	86
	3-5	1.15-1.35	0.2-20	0.18-0.27	1.0-2.9	2.0-3.5	.24	.24			
	5-12	1.20-1.35	0.2-20	0.17-0.26	1.0-2.9	1.0-2.0	.37	.37			
	12-43	1.25-1.50	0.2-20	0.16-0.26	1.0-2.9	1.0-4.0	.64	.64			
	43-60	1.35-1.55	6-100	0.00-0.05	1.0-2.9	0.5-1.0	.05	.32			
29-Boreal woodland, sandy terraces-											
	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	5-8	1.10-1.25	0.2-2	0.15-0.20	1.0-3.0	4.0-6.0	.43	.43			
	8-12	1.15-1.35	0.2-2	0.20-0.30	1.0-3.0	1.0-2.0	.55	.55			
	12-30	1.20-1.35	0.2-2	0.15-0.21	1.0-3.0	0.5-1.0	.64	.64			
	30-60	1.40-1.70	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.24	.28			
29-Boreal scrub, loamy flood plains--											
	0-10	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64	2	8	0
	10-17	1.00-1.15	0.2-2	0.17-0.30	1.0-2.9	1.0-7.0	.64	.64			
	17-39	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
	39-60	1.00-1.15	0.2-2	0.17-0.30	1.0-3.0	1.0-7.0	.64	.64			
R29PLA:											
29-Boreal grass, loamy depressions-	0-2	0.07-0.18	0.2-2	0.25-0.70	---	50-90	---	---	5	3	86
	2-6	1.25-1.40	2-20	0.14-0.24	1.0-3.0	4.0-6.0	.43	.43			
	6-19	1.30-1.50	2-20	0.12-0.21	1.0-3.0	1.0-2.0	.55	.55			
	19-59	1.30-1.50	2-20	0.12-0.22	1.0-3.0	0.5-1.0	.64	.64			
	59-60	1.30-1.50	2-20	0.14-0.22	1.0-3.0	0.5-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>R29PLA:</b>											
29-Boreal woodland, silty terraces ---	0-10	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	5	3	86
	10-12	0.62-1.15	2-20	0.14-0.30	1.0-2.9	6.0-9.9	.10	.10			
	12-22	1.10-1.25	0.2-2	0.12-0.24	1.0-3.0	4.0-8.0	.43	.43			
	22-54	1.15-1.35	0.2-2	0.13-0.22	1.0-3.0	1.0-5.0	.55	.55			
	54-60	1.15-1.40	0.001-0.2	0.05-0.22	1.0-3.0	0.4-1.0	.55	.55			
<b>29-Boreal forest, loamy till plains ----</b>											
0-1	0-1	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	2	3	86
	1-2	1.10-1.20	2-20	0.15-0.30	1.0-3.0	1.0-2.0	.55	.55			
	2-5	1.20-1.35	2-20	0.15-0.21	1.0-3.0	1.0-2.0	.64	.64			
	5-15	1.25-1.35	2-20	0.12-0.20	1.0-3.0	1.0-3.0	.10	.28			
	15-60	1.25-1.35	2-20	0.12-0.20	1.0-3.0	1.0-3.0	.10	.28			
<b>29-Boreal sedge, organic ----- depressions</b>											
0-7	0-7	0.05-0.10	6-20	0.05-0.35	---	40-95	---	---	3	8	0
	7-17	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---			
	17-28	0.20-0.55	0.2-2	0.40-0.60	---	60-85	---	---			
	28-60	1.30-1.50	2-20	0.08-0.21	1.0-3.0	0.5-1.0	.64	.64			
<b>R29PLB:</b>											
29-Boreal sedge, organic plains ----	0-26	0.05-0.10	6-20	0.05-0.35	---	40-95	---	---	5	8	0
	26-39	---	---	---	---	---	---	---			
	39-60	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---			
<b>29-Water-----</b>											
---	---	---	---	---	---	---	---	---	-	---	---
<b>R29UPA:</b>											
29-Boreal scrub, organic plains ----	0-17	0.07-0.18	2-20	0.25-0.50	---	50-90	---	---	2	8	0
	17-22	1.20-1.40	2-20	0.10-0.30	1.0-2.9	6.0-11	.10	.10			
	22-27	0.05-0.10	2-20	0.00-0.50	---	75-95	---	---			
	27-60	---	0.000-0.001	---	1.0-3.0	0.5-3.0	.55	.55			
<b>29-Boreal sedge, organic ----- depressions</b>											
0-7	0-7	0.05-0.10	6-20	0.05-0.35	---	40-95	---	---	3	8	0
	7-17	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---			
	17-28	0.20-0.55	0.2-2	0.40-0.60	---	60-85	---	---			
	28-60	1.30-1.50	2-20	0.08-0.21	1.0-3.0	0.5-1.0	.64	.64			
<b>29-Boreal taiga, silty plains-----</b>											
0-15	0-15	0.20-0.30	2-20	0.05-0.35	---	40-95	---	---	5	8	0
	15-20	0.62-1.15	2-20	0.12-0.30	1.0-2.9	6.0-12	.10	.10			
	20-28	1.25-1.35	0.2-2	0.17-0.28	1.0-2.9	1.5-3.0	.43	.43			
	28-60	1.25-1.35	0.2-2	0.13-0.24	1.0-2.9	1.0-3.0	.43	.43			
<b>R29UPB:</b>											
29-Boreal forest, silty eolian slopes --	0-4	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	3	2	134
	4-5	0.60-1.00	2-20	0.17-0.30	1.0-3.0	4.0-12	.32	.32			
	5-15	1.10-1.20	2-20	0.14-0.24	1.0-3.0	1.0-2.0	.55	.55			
	15-24	1.10-1.35	0.2-20	0.15-0.24	1.0-3.0	1.0-2.0	.64	.64			
	24-60	1.20-1.40	0.2-2	0.15-0.24	1.0-3.0	0.3-0.7	.64	.64			
<b>29-Boreal taiga, silty eolian slopes ---</b>											
0-10	0-10	0.07-0.18	0.2-2	0.25-0.50	---	50-90	---	---	5	8	0
	10-33	1.20-1.40	2-20	0.08-0.21	1.0-2.9	6.0-12	.10	.10			
	33-60	1.25-1.35	0.2-2	0.10-0.22	1.0-2.9	1.0-3.0	.43	.43			
<b>29-Subalpine woodland,----- silty colluvial slopes</b>											
0-10	0-10	0.05-0.10	2-20	0.05-0.35	---	40-95	---	---	2	5	56
	10-12	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---			
	12-19	1.15-1.25	2-20	0.12-0.26	1.0-2.9	5.0-9.0	.32	.32			
	19-35	1.20-1.35	2-20	0.13-0.28	1.0-2.9	1.0-2.0	.55	.55			
	35-57	1.20-1.35	2-20	0.14-0.27	1.0-2.9	1.0-2.0	.55	.55			
	57-59	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	59-60	1.20-1.35	2-20	0.06-0.27	1.0-2.9	1.0-2.0	.55	.55			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R29UPC:											
29-Boreal woodland, sandy terraces-	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	3	3	86
	5-8	1.10-1.25	0.2-2	0.15-0.20	1.0-3.0	4.0-6.0	.43	.43			
	8-12	1.15-1.35	0.2-2	0.20-0.30	1.0-3.0	1.0-2.0	.55	.55			
	12-30	1.20-1.35	0.2-2	0.15-0.21	1.0-3.0	0.5-1.0	.64	.64			
	30-60	1.40-1.70	2-20	0.05-0.10	1.0-3.0	0.5-1.0	.24	.28			
29-Boreal forest, sandy terraces -----	0-2	0.05-0.10	2-20	0.05-0.35	---	40-95	---	---	3	3	86
	2-4	1.10-1.25	0.2-2	0.10-0.24	1.0-3.0	4.0-6.0	.43	.43			
	4-6	1.15-1.30	0.2-2	0.10-0.26	1.0-3.0	1.0-2.0	.55	.55			
	6-22	1.15-1.30	0.2-2	0.12-0.45	1.0-2.9	1.0-5.0	.64	.64			
	22-50	1.20-1.35	0.2-2	0.10-0.24	1.0-3.0	0.5-1.0	.64	.64			
	50-60	1.35-1.50	2-20	0.00-0.08	1.0-3.0	0.5-1.0	.24	.28			
R29WAA:											
29-Water-----	---	---	---	---	---	---	---	---	-	---	---
R30FPA:											
30-Boreal forest, gravelly flood plains	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	3	3	86
	4-13	1.15-1.35	0.2-20	0.11-0.22	1.0-2.9	1.0-2.0	.24	.24			
	13-25	1.20-1.35	0.2-20	0.14-0.21	1.0-2.9	1.0-2.0	.37	.37			
	25-39	1.25-1.50	0.2-20	0.08-0.13	1.0-2.9	1.0-4.0	.64	.64			
	39-60	1.35-1.55	2-100	0.01-0.05	1.0-2.9	0.5-1.0	.05	.32			
30-Boreal forest, loamy flood plains--	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	1-3	0.90-1.15	2-20	0.32-0.45	1.0-3.0	3.0-10	.49	.49			
	3-28	1.00-1.15	0.2-2	0.32-0.44	1.0-3.0	1.0-7.0	.64	.64			
	28-60	1.00-1.25	0.2-2	0.31-0.37	1.0-3.0	0.5-3.0	.55	.55			
30-Boreal scrub, gravelly flood plains	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	1-4	1.25-1.45	2-20	0.05-0.13	1.0-2.9	2.0-4.0	.37	.37			
	4-47	1.35-1.55	2-20	0.00-0.05	1.0-2.9	0.5-2.0	.05	.32			
	47-60	1.35-1.55	2-20	0.00-0.02	1.0-2.9	0.5-2.0	.32	.49			
30-Boreal scrub, silty terraces -----	0-4	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	4-7	1.15-1.25	0.2-20	0.17-0.24	1.0-2.9	5.0-9.0	.32	.32			
	7-9	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	9-13	1.25-1.45	0.2-2	0.16-0.20	1.0-2.9	1.0-2.0	.55	.55			
	13-23	1.20-1.35	0.2-2	0.18-0.22	1.0-2.9	1.0-2.0	.55	.55			
	23-60	1.25-1.40	0.06-2	0.16-0.20	1.0-2.9	1.0-2.0	.55	.55			
R30HIA:											
30-Boreal forest, loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
30-Boreal taiga, loamy eolian slopes	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-11	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	11-16	1.30-1.40	0.2-2	0.23-0.29	1.0-2.9	5.0-9.0	.43	.43			
	16-31	1.40-1.50	0.06-2	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	31-60	---	0.000-0.001	---	---	0.5-2.0	.55	.55			
30-Boreal scrub, organic ----- depressions	0-39	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	8	0
	39-47	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---			
	47-60	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>R30HID:</b>											
30-Boreal forest, silty colluvial slopes	0-4	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	3	3	86
	4-12	1.10-1.20	2-20	0.15-0.30	1.0-3.0	4.0-10	.32	.32			
	12-20	1.25-1.35	2-20	0.16-0.26	1.0-3.0	1.0-3.0	.10	.28			
	20-60	1.25-1.35	2-20	0.16-0.26	1.0-3.0	1.0-3.0	.10	.28			
30-Boreal forest, silty eolian slopes, rocky	0-4	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---	3	2	134
	4-5	0.60-1.00	2-20	0.17-0.30	1.0-3.0	4.0-10	.32	.32			
	5-15	1.10-1.20	2-20	0.14-0.24	1.0-3.0	1.0-2.0	.55	.55			
	15-24	1.10-1.35	0.2-20	0.15-0.24	1.0-3.0	1.0-2.0	.64	.64			
	24-60	1.20-1.40	0.2-2	0.15-0.24	1.0-3.0	0.3-0.7	.37	.64			
30-Subalpine woodland, silty colluvial slopes	0-10	0.05-0.10	2-20	0.05-0.35	---	40-95	---	---	2	5	56
	10-12	0.07-0.18	0.06-2	0.25-0.50	---	50-90	---	---			
	12-19	1.15-1.25	2-20	0.12-0.26	1.0-2.9	5.0-9.0	.32	.32			
	19-35	1.20-1.35	2-20	0.13-0.28	1.0-2.9	1.0-2.0	.55	.55			
	35-57	1.20-1.35	2-20	0.14-0.27	1.0-2.9	1.0-2.0	.55	.55			
	57-59	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	59-60	1.20-1.35	2-20	0.06-0.27	1.0-2.9	1.0-2.0	.55	.55			
<b>R30MTA:</b>											
30-Boreal forest, silty eolian slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-5	0.60-1.00	0.2-2	0.16-0.20	1.0-3.0	4.0-10	.32	.32			
	5-11	0.90-1.20	0.2-2	0.16-0.20	1.0-3.0	1.0-2.0	.55	.55			
	11-30	1.10-1.35	0.2-2	0.21-0.27	1.0-3.0	1.0-2.0	.64	.64			
	30-60	1.20-1.40	0.2-2	0.17-0.22	1.0-3.0	0.3-0.7	.64	.64			
30-Boreal forest, loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
30-Boreal woodland, gravelly colluvial slopes	0-6	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	6-8	0.80-1.00	2-20	0.07-0.18	1.0-2.9	4.0-10	.43	.43			
	8-13	1.20-1.35	2-20	0.05-0.15	1.0-2.9	1.0-3.0	.10	.28			
	13-24	1.30-1.50	2-20	0.04-0.15	1.0-2.9	0.5-2.5	.10	.28			
	24-60	1.35-1.55	2-20	0.07-0.20	1.0-2.9	0.3-0.7	.37	.64			
<b>R30MTB:</b>											
30-Boreal taiga, loamy colluvial slopes	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	5-13	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	13-16	1.25-1.35	2-20	0.17-0.24	1.0-3.0	1.5-5.0	.37	.37			
	16-22	1.25-1.45	0.2-2	0.17-0.25	1.0-3.0	3.0-7.0	.37	.37			
	22-60	---	0.001-0.06	---	---	0.5-2.0	.43	.43			
30-Boreal forest, gravelly colluvial slopes	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	5	56
	3-5	1.00-1.25	2-20	0.18-0.25	1.0-2.9	3.0-7.0	.20	.37			
	5-14	1.15-1.30	2-20	0.10-0.18	1.0-2.9	1.0-3.0	.15	.37			
	14-20	1.25-1.35	2-20	0.08-0.12	1.0-2.9	1.0-2.2	.10	.37			
	20-60	1.30-1.40	2-20	0.05-0.11	1.0-2.9	0.5-1.5	.10	.37			
30-Boreal scrub, loamy eolian slopes	0-1	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	2	134
	1-3	1.10-1.20	0.2-20	0.18-0.22	1.0-2.9	4.0-6.0	.43	.43			
	3-6	1.10-1.20	0.2-20	0.18-0.26	1.0-2.9	6.0-12	.43	.43			
	6-32	1.25-1.40	0.2-2	0.18-0.24	1.0-2.9	1.0-2.0	.55	.55			
	32-60	1.25-1.40	0.2-2	0.20-0.24	1.0-2.9	0.5-1.0	.64	.64			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R30MTB:											
30-Subalpine forest, ----- gravelly residual slopes	0-4	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	4-7	1.15-1.35	0.2-20	0.10-0.22	1.0-3.0	4.0-9.0	.15	.32			
	7-14	1.25-1.45	0.2-20	0.04-0.18	1.0-3.0	1.0-2.0	.20	.64			
	14-60	1.35-1.55	0.2-20	0.03-0.15	1.0-3.0	0.3-0.7	.10	.64			
30-Subalpine scrub, ----- loamy colluvial slopes	0-3	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	3	86
	3-5	1.00-1.15	0.2-2	0.17-0.23	1.0-2.9	6.0-12	.20	.20			
	5-10	1.15-1.30	0.2-2	0.18-0.24	1.0-2.9	3.0-10	.28	.28			
	10-20	1.30-1.50	2-20	0.10-0.22	1.0-2.9	0.5-5.0	.24	.55			
	20-60	1.40-1.55	2-20	0.09-0.20	1.0-2.9	0.5-1.5	.28	.64			
R30MTC:											
30-Boreal forest, ----- gravelly colluvial slopes	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	5	56
	3-5	1.00-1.25	2-20	0.18-0.25	1.0-2.9	3.0-7.0	.20	.37			
	5-14	1.15-1.30	2-20	0.10-0.18	1.0-2.9	1.0-3.0	.15	.37			
	14-20	1.25-1.35	2-20	0.08-0.12	1.0-2.9	1.0-2.2	.10	.37			
	20-60	1.30-1.40	2-20	0.05-0.11	1.0-2.9	0.5-1.5	.10	.37			
30-Boreal scrub, silty ----- colluvial slopes	0-7	0.05-0.10	6-100	0.05-0.35	---	40-95	---	---	5	8	0
	7-9	0.20-0.55	0.001-0.2	0.40-0.55	---	60-85	---	---			
	9-13	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	13-22	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	22-41	1.30-1.50	0.2-2	0.10-0.17	1.0-3.0	1.0-3.0	.10	.49			
	41-60	---	6-100	---	---	---	---	---			
30-Subalpine woodland, ----- gravelly colluvial slopes	0-6	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	6-7	1.10-1.30	0.2-20	0.17-0.21	1.0-3.0	6.0-9.0	.10	.10			
	7-15	1.25-1.45	0.2-20	0.08-0.16	1.0-3.0	5.0-10	.10	.10			
	15-22	1.35-1.50	2-20	0.05-0.12	1.0-3.0	1.0-2.0	.37	.10			
	22-60	1.35-1.55	2-20	0.05-0.12	1.0-3.0	1.0-2.0	.37	.10			
30-Boreal taiga, loamy ----- colluvial slopes	0-5	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	5-13	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
	13-16	1.25-1.35	2-20	0.17-0.24	1.0-3.0	1.5-5.0	.37	.37			
	16-22	1.25-1.45	0.2-2	0.17-0.25	1.0-3.0	3.0-7.0	.37	.37			
	22-60	---	0.001-0.06	---	---	0.5-2.0	.43	.43			
R30MTD:											
30-Alpine herbaceous, ----- gravelly colluvial slopes	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	3	86
	1-4	0.90-1.20	0.2-2	0.20-0.30	1.0-2.9	1.5-5.0	.37	.37			
	4-20	1.20-1.40	2-20	0.08-0.13	1.0-2.9	1.0-3.0	.10	.28			
	20-28	1.25-1.45	2-20	0.03-0.12	1.0-2.9	1.0-3.0	.10	.28			
	28-60	---	0.000-0.001	---	---	---	---	---			
30-Rock outcrop, igneous -----	---	---	---	---	---	---	---	---	---	---	---
30-Subalpine woodland, ----- gravelly colluvial slopes	0-6	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	6-7	1.10-1.30	0.2-20	0.17-0.21	1.0-3.0	6.0-9.0	.10	.10			
	7-15	1.25-1.45	0.2-20	0.08-0.16	1.0-3.0	5.0-10	.10	.10			
	15-22	1.35-1.50	2-20	0.05-0.12	1.0-3.0	1.0-2.0	.37	.10			
	22-60	1.35-1.55	2-20	0.05-0.12	1.0-3.0	1.0-2.0	.37	.10			
30-Alpine dwarf scrub, ----- gravelly till slopes	0-4	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	4-11	0.80-1.00	0.2-2	0.06-0.22	1.0-3.0	8.0-12	.10	.10			
	11-21	1.20-1.30	2-20	0.10-0.21	1.0-3.0	7.0-10	.10	.28			
	21-31	1.25-1.35	2-20	0.09-0.20	1.0-3.0	1.0-3.0	.10	.28			
	31-60	1.25-1.35	2-20	0.09-0.18	1.0-3.0	1.0-3.0	.10	.28			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>R30MTE:</b>											
30-Alpine herbaceous, gravelly colluvial slopes	0-1	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	3	86
	1-4	0.90-1.20	0.2-2	0.20-0.30	1.0-2.9	1.5-5.0	.37	.37			
	4-20	1.20-1.40	2-20	0.08-0.13	1.0-2.9	1.0-3.0	.10	.28			
	20-28	1.25-1.45	2-20	0.03-0.12	1.0-2.9	1.0-3.0	.10	.28			
	28-60	---	0.000-0.001	---	---	---	---	---			
30-Subalpine scrub, gravelly colluvial slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	5	56
	2-6	1.30-1.50	2-20	0.06-0.22	1.0-3.0	7.0-11	.10	.17			
	6-16	1.35-1.60	2-20	0.10-0.18	1.0-3.0	1.0-10	.10	.10			
	16-24	1.40-1.70	2-20	0.05-0.16	1.0-3.0	1.0-12	.10	.24			
	24-60	1.50-1.70	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
30-Subalpine woodland, loamy colluvial slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	3	86
	4-10	0.90-1.20	0.2-20	0.18-0.24	1.0-3.0	3.0-7.0	.64	.64			
	10-12	1.20-1.45	0.2-20	0.18-0.24	1.0-3.0	1.0-2.0	.55	.55			
	12-24	1.45-1.65	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
	24-60	---	0.001-0.06	---	---	---	---	---			
<b>R30UPA:</b>											
30-Boreal taiga, silty plains	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	9-15	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	15-19	0.62-1.15	0.2-2	0.17-0.25	1.0-2.9	6.0-10	.10	.10			
	19-35	1.30-1.50	0.06-2	0.10-0.17	1.0-2.9	3.0-8.0	.43	.43			
	35-60	---	0.000-0.001	---	---	1.0-3.0	.55	.55			
30-Subalpine woodland, loamy till slopes	0-7	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	3	86
	7-11	1.00-1.25	0.2-2	0.22-0.26	1.0-3.0	6.0-9.9	.55	.55			
	11-17	1.35-1.55	0.2-20	0.13-0.24	1.0-3.0	1.0-2.0	.64	.64			
	17-34	1.45-1.65	2-20	0.10-0.18	1.0-3.0	1.0-3.0	.10	.28			
	34-60	1.50-1.70	2-20	0.10-0.18	1.0-3.0	1.0-3.0	.10	.28			
30-Subalpine sedge, organic depressions	0-39	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	39-60	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
<b>R30UPB:</b>											
30-Boreal forest, loamy eolian slopes	0-4	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	4-6	1.10-1.20	0.2-20	0.15-0.24	1.0-2.9	4.0-6.0	.43	.43			
	6-8	1.15-1.25	0.2-20	0.16-0.24	1.0-2.9	1.0-2.0	.55	.55			
	8-20	1.25-1.40	0.2-2	0.16-0.24	1.0-2.9	0.5-1.0	.64	.64			
	20-37	1.25-1.40	0.2-2	0.12-0.21	1.0-2.9	0.5-1.0	.64	.64			
	37-60	1.30-1.50	2-20	0.09-0.20	1.0-2.9	0.2-1.0	.10	.28			
30-Boreal scrub, loamy colluvial slopes	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	9-12	0.80-1.20	0.2-20	0.13-0.22	1.0-3.0	1.5-5.0	.37	.37			
	12-18	1.10-1.30	0.2-20	0.15-0.25	1.0-3.0	1.0-2.2	.43	.43			
	18-28	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.5	.10	.37			
	28-60	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.0	.10	.28			
30-Boreal tussock-scrub, loamy plains	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	9-14	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	14-19	1.10-1.20	0.2-2	0.20-0.23	1.0-2.9	6.0-10	.28	.28			
	19-24	1.25-1.40	0.06-2	0.17-0.20	1.0-2.9	2.0-8.0	.55	.55			
	24-60	---	0.000-0.001	---	---	1.0-3.0	.64	.64			
30-Rock outcrop, rhyolite	---	---	---	---	---	---	---	-	---	---	

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
<b>R30UPC:</b>											
30-Boreal forest, gravelly colluvial slopes	0-3	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	5	56
	3-5	1.00-1.25	2-20	0.18-0.25	1.0-2.9	3.0-7.0	.20	.37			
	5-14	1.15-1.30	2-20	0.10-0.18	1.0-2.9	1.0-3.0	.15	.37			
	14-20	1.25-1.35	2-20	0.08-0.12	1.0-2.9	1.0-2.2	.10	.37			
	20-60	1.30-1.40	2-20	0.05-0.11	1.0-2.9	0.5-1.5	.10	.37			
30-Subalpine woodland, loamy till slopes	0-7	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	2	3	86
	7-11	1.00-1.25	0.2-2	0.22-0.26	1.0-3.0	6.0-9.9	.55	.55			
	11-17	1.35-1.55	0.2-20	0.13-0.24	1.0-3.0	1.0-2.0	.64	.64			
	17-34	1.45-1.65	2-20	0.10-0.18	1.0-3.0	1.0-3.0	.10	.28			
	34-60	1.50-1.70	2-20	0.10-0.18	1.0-3.0	1.0-3.0	.10	.28			
30-Boreal forest, silty eolian slopes --	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	5	2	134
	2-5	0.60-1.00	0.2-2	0.16-0.20	1.0-3.0	4.0-10	.32	.32			
	5-11	0.90-1.20	0.2-2	0.16-0.20	1.0-3.0	1.0-2.0	.55	.55			
	11-30	1.10-1.35	0.2-2	0.21-0.27	1.0-3.0	1.0-2.0	.64	.64			
	30-60	1.20-1.40	0.2-2	0.17-0.22	1.0-3.0	0.3-0.7	.64	.64			
30-Subalpine scrub, gravelly colluvial slopes	0-2	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---	1	5	56
	2-6	1.30-1.50	2-20	0.06-0.22	1.0-3.0	7.0-11	.10	.17			
	6-16	1.35-1.60	2-20	0.10-0.18	1.0-3.0	1.0-10	.10	.10			
	16-24	1.40-1.70	2-20	0.05-0.16	1.0-3.0	1.0-12	.10	.24			
	24-60	1.50-1.70	2-20	0.08-0.12	1.0-2.9	0.5-1.5	.10	.32			
<b>R30UPD:</b>											
30-Boreal tussock-scrub, loamy plains	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	9-14	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	14-19	1.10-1.20	0.2-2	0.20-0.23	1.0-2.9	6.0-10	.28	.28			
	19-24	1.25-1.40	0.06-2	0.17-0.20	1.0-2.9	2.0-8.0	.55	.55			
	24-60	---	0.000-0.001	---	---	1.0-3.0	.64	.64			
30-Boreal dwarf scrub, silty plains ----	0-7	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	2	8	0
	7-9	1.10-1.25	0.2-2	0.17-0.30	1.0-2.9	6.0-12	.10	.10			
	9-18	1.10-1.30	0.2-2	0.15-0.25	1.0-2.9	3.0-8.0	.43	.43			
	18-28	1.25-1.35	0.06-2	0.15-0.25	1.0-2.9	2.0-8.0	.43	.43			
	28-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
30-Boreal sedge, organic depressions	0-11	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	5	8	0
	11-21	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	21-60	0.20-0.55	0.001-0.2	0.40-0.60	---	60-85	---	---			
30-Boreal scrub, loamy terraces -----	0-16	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	16-25	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	25-28	0.62-1.15	0.2-2	0.20-0.24	1.0-2.9	6.0-10	.32	.32			
	28-43	1.25-1.45	0.001-0.2	0.15-0.17	1.0-2.9	3.0-8.0	.49	.49			
	43-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
<b>R30UPE:</b>											
30-Boreal tussock-scrub, loamy plains	0-9	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	9-14	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	14-19	1.10-1.20	0.2-2	0.20-0.23	1.0-2.9	6.0-10	.28	.28			
	19-24	1.25-1.40	0.06-2	0.17-0.20	1.0-2.9	2.0-8.0	.55	.55			
	24-60	---	0.000-0.001	---	---	1.0-3.0	.64	.64			
30-Boreal taiga, loamy eolian slopes	0-8	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	8-11	0.07-0.18	0.2-20	0.35-0.50	---	75-90	---	---			
	11-16	1.30-1.40	0.2-2	0.23-0.29	1.0-2.9	5.0-9.0	.43	.43			
	16-31	1.40-1.50	0.06-2	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	31-60	---	0.000-0.001	---	---	0.5-2.0	.55	.55			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Wind erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R30WAA: 30-Water	---	---	---	---	---	---	---	---	-	---	---
R37MTA: 37-Alpine dwarf scrub, ----- gravelly colluvial slopes	0-2 2-9 9-15 15-26 26-50 50-60	0.05-0.10 1.10-1.25 1.25-1.40 1.25-1.40 1.25-1.45 ---	6-100 0.2-2 2-20 2-20 2-20 6-100	0.05-0.35 0.14-0.24 0.04-0.10 0.04-0.10 0.03-0.14 ---	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9 ---	85-95 1.5-5.0 1.0-3.0 1.0-3.0 1.0-3.0 ---	--- .37 .10 .10 .10 ---	--- .37 .28 .28 .28 ---	1 1 1 1 1 ---	2 2 2 2 2 ---	134 134 134 134 134 ---
37-Alpine scrub, loamy ----- colluvial slopes	0-1 1-3 3-6 6-18 18-41 41-60	0.05-0.10 1.10-1.25 1.15-1.30 1.15-1.30 1.20-1.35 1.25-1.45	6-100 2-20 0.2-2 0.2-2 0.2-2 2-20	0.05-0.35 0.13-0.27 0.12-0.27 0.12-0.27 0.13-0.26 0.04-0.12	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	85-95 4.0-12 4.0-11 4.0-11 1.0-2.0 0.3-0.7	--- .43 .43 .43 .64 .37	--- .43 .43 .43 .64 .64	3 3 3 3 3 3	3 3 3 3 3 3	86 86 86 86 86 86
37-Subalpine scrub, ----- gravelly colluvial slopes	0-2 2-6 6-16 16-60	0.07-0.18 1.00-1.15 1.20-1.40 1.25-1.45	0.2-20 2-20 2-20 2-20	0.35-0.50 0.26-0.30 0.24-0.28 0.10-0.17	--- 1.0-2.9 1.0-2.9 1.0-2.9	85-95 10-60 1.0-10 1.0-5.0	--- .10 .10 .10	--- .28 .32 .37	1 1 1 1	7 7 7 7	38 38 38 38
37-Subalpine woodland, ----- loamy till slopes	0-7 7-11 11-17 17-34 34-60	0.07-0.18 1.10-1.20 1.20-1.30 1.25-1.45 1.30-1.55	0.2-20 0.2-2 0.2-2 2-20 2-20	0.35-0.50 0.17-0.24 0.16-0.26 0.05-0.17 0.05-0.15	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	75-95 2.0-4.0 1.0-2.0 1.0-3.0 0.5-1.5	--- .43 .49 .10 .10	--- .55 .64 .28 .28	2 2 2 2 2	3 3 3 3 3	86 86 86 86 86
R38FPA: 38-Boreal woodland, ----- gravelly terraces	0-7 7-8 8-16 16-17 17-22 22-28 28-60	0.07-0.30 1.00-1.20 1.10-1.30 1.10-1.30 1.20-1.40 1.40-1.70 1.40-1.70	6-100 2-20 2-20 2-20 2-20 6-100 6-100	0.05-0.35 0.22-0.34 0.18-0.28 0.18-0.28 0.16-0.31 0.00-0.05 0.00-0.05	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	85-95 4.0-9.0 5.0-10 4.0-8.0 10-12 0.5-2.0 0.5-2.0	--- .37 .37 .37 .43 .15 .15	--- .37 .37 .37 .43 .10 .10	2 2 2 2 2 2 2	5 5 5 5 5 5 5	56 56 56 56 56 56 56
38-Tundra scrub, gravelly terraces ---	0-2 2-4 4-13 13-20 20-60	0.07-0.30 1.15-1.40 1.25-1.45 1.30-1.55 1.40-1.70	6-100 2-20 2-20 2-20 6-100	0.05-0.35 0.14-0.24 0.10-0.22 0.08-0.15 0.00-0.09	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	85-95 4.0-9.0 1.0-7.0 1.0-3.0 0.5-2.0	--- .37 .43 .49 .15	--- .37 .43 .24 .10	1 1 1 1 1	8 8 8 8 8	0 0 0 0 0
38-Boreal forest, silty flood plains ----	0-2 2-6 6-37 37-55 55-60	0.10-0.30 0.90-1.15 1.00-1.15 1.00-1.15 1.00-1.25	0.2-20 2-20 0.2-2 0.2-2 0.2-2	0.05-0.35 0.40-0.45 0.35-0.45 0.40-0.45 0.30-0.40	--- 1.0-2.9 1.0-2.9 1.0-2.9 1.0-2.9	70-90 3.0-9.0 1.0-5.0 1.0-5.0 1.0-5.0	--- .49 .64 .49 .55	--- .49 .64 .49 .55	5 5 5 5 5	5 5 5 5 5	56 56 56 56 56
38-Boreal scrub, ----- gravelly flood plains	0-4 4-47 47-60	1.40-1.50 1.45-1.60 1.45-1.65	2-20 6-100 6-100	0.06-0.08 0.02-0.10 0.03-0.10	1.0-2.9 1.0-2.9 1.0-2.9	2.0-4.0 1.0-3.0 0.5-2.5	.37 .05 .32	.37 .32 .49	1 1 1	3 3 3	86 86 86

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factor			Wind erodi- bility group	Win- erodi- bility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R38FPB:											
38-Boreal grass, loamy flood plains--	0-4	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---	5	8	0
	4-16	1.20-1.40	2-20	0.15-0.24	1.0-2.9	1.0-4.0	.37	.37			
	16-60	1.25-1.45	2-20	0.16-0.24	1.0-2.9	0.5-4.0	.43	.43			
38-Boreal scrub, silty flood plains-----	0-10	0.07-0.30	0.2-20	0.35-0.50	---	75-90	---	---	5	3	86
	10-22	1.10-1.30	0.2-2	0.12-0.26	1.0-2.9	1.0-2.0	.55	.55			
	22-60	1.15-1.35	0.2-2	0.15-0.26	1.0-2.9	0.5-2.0	.55	.55			
R38PLA:											
38-Boreal forest, silty plains-----	0-5	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---	5	3	86
	5-7	0.62-1.15	2-20	0.20-0.30	1.0-2.9	4.0-9.0	.10	.10			
	7-17	1.20-1.30	0.2-2	0.19-0.26	1.0-2.9	0.5-2.0	.43	.43			
	17-38	1.15-1.25	0.2-2	0.18-0.27	1.0-2.9	1.0-5.0	.55	.55			
	38-60	1.20-1.35	0.2-2	0.20-0.26	1.0-2.9	0.4-1.0	.55	.55			
38-Boreal scrub-sedge,----- loamy terraces	0-7	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	7-14	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---			
	14-18	1.15-1.30	2-20	0.14-0.23	1.0-2.9	6.0-12	.10	.10			
	18-31	1.20-1.35	0.2-2	0.16-0.23	1.0-2.9	2.0-8.0	.37	.37			
	31-60	---	0.000-0.001	---	---	0.0-1.0	.43	.43			
38-Boreal woodland, silty plains -----	0-4	0.10-0.30	0.2-20	0.05-0.35	---	70-90	---	---	2	8	0
	4-12	1.10-1.20	0.2-2	0.16-0.28	1.0-2.9	6.0-12	.10	.10			
	12-24	1.30-1.40	0.2-2	0.15-0.25	1.0-2.9	3.0-8.0	.43	.43			
	24-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
R38PLB:											
38-Tundra scrub, silty plains -----	0-3	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	3-9	1.10-1.20	2-20	0.14-0.33	1.0-2.9	6.0-9.0	.10	.10			
	9-24	1.25-1.40	0.2-2	0.12-0.22	1.0-2.9	2.0-8.0	.43	.43			
	24-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
38-Boreal woodland, ----- loamy eolian slopes	0-4	0.10-0.30	0.2-20	0.35-0.50	---	70-90	---	---	5	3	86
	4-8	1.10-1.25	2-20	0.15-0.25	1.0-2.9	4.0-8.0	.32	.32			
	8-11	1.15-1.30	2-20	0.15-0.25	1.0-2.9	3.0-6.0	.55	.55			
	11-19	1.20-1.30	2-20	0.15-0.25	1.0-2.9	3.0-6.0	.55	.55			
	19-60	1.25-1.35	2-20	0.14-0.24	1.0-2.9	0.5-1.0	.55	.55			
38-Tundra dwarf scrub, silty plains---	0-9	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	9-12	1.10-1.25	2-20	0.14-0.33	1.0-2.9	6.0-9.0	.10	.10			
	12-30	1.25-1.40	0.2-2	0.12-0.22	1.0-2.9	2.0-8.0	.43	.43			
	30-60	---	0.000-0.001	---	---	0.5-3.0	.49	.49			
R38PLC:											
38-Water-----	---	---	---	---	---	---	---	---	---	---	---
38-Tundra dwarf scrub,----- organic plains	0-6	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	6-31	0.10-0.30	0.2-20	0.20-0.50	---	70-90	---	---			
	31-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
38-Tundra sedge, organic ----- depressions	0-39	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	39-49	1.15-1.35	0.2-2	0.16-0.25	1.0-2.9	4.0-10	.28	.28			
	49-60	1.25-1.45	0.2-2	0.13-0.25	1.0-2.9	0.5-1.5	.24	.24			

Table 9. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factor			Wind erodibility group	Win erodibility index
							Kw	Kf	T		
		In.	g/cc	In/Hr	In/In	Pct.	Pct.				
R38UPB:											
38-Boreal scrub, loamy eolian slopes	0-15	0.07-0.30	6-100	0.13-0.17	---	85-95	---	---	2	8	0
	15-28	1.10-1.25	2-20	0.17-0.25	1.0-2.9	5.0-9.0	.43	.43			
	28-42	1.20-1.40	2-20	0.17-0.24	1.0-2.9	2.0-5.0	.55	.55			
	42-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
38-Tundra tussock-scrub,----- organic eolian slopes	0-24	0.07-0.30	6-100	0.05-0.50	---	85-95	---	---	2	8	0
	24-31	1.25-1.45	0.2-2	0.13-0.23	1.0-2.9	1.0-3.0	.43	.43			
	31-60	---	0.000-0.001	---	---	0.5-3.0	.49	.49			
38-Boreal scrub, loamy colluvial ----- slopes, Yukon-Kuskokwim Coastal Plain	0-7	0.05-0.10	6-100	0.05-0.35	---	85-95	---	---	1	3	86
	7-12	0.80-1.20	0.2-20	0.13-0.22	1.0-3.0	1.5-5.0	.37	.37			
	12-18	1.10-1.30	0.2-20	0.15-0.25	1.0-3.0	1.0-2.2	.43	.43			
	18-28	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.5	.10	.37			
	28-60	1.25-1.35	2-20	0.05-0.20	1.0-3.0	0.5-1.0	.10	.28			
38-Tundra scrub, silty plains -----	0-3	0.07-0.30	6-100	0.05-0.35	---	85-95	---	---	2	8	0
	3-9	1.10-1.20	2-20	0.14-0.33	1.0-2.9	6.0-9.0	.10	.10			
	9-24	1.25-1.40	0.2-2	0.12-0.22	1.0-2.9	2.0-8.0	.43	.43			
	24-60	---	0.000-0.001	---	---	1.0-3.0	---	---			
R38WAA:											
38-Water-----	---	---	---	---	---	---	---	---	-	---	---

Table 10. Chemical Properties of the Soils

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

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
29DP03: 29-Noonku family, ponded -----	0-7 7-31 31-60	79-155 7-14 7-14	6-10 2-7 2-7	4.6-7.0 4.4-7.2 4.4-7.2
29FP01: 29-Fubar family, frequent flooding -----	0-6 6-11 11-60	0-4 0-4 6-20	--- --- ---	6.0-8.0 6.0-7.0 5.6-6.0
29-Noonku family, frequent flooding -----	0-7 7-31 31-60	79-155 7-14 7-14	6-10 2-7 2-7	4.6-7.0 4.4-7.2 4.4-7.2
29FP02: 29-Salchaket family -----	0-1 1-3 3-28 28-60	52-84 15-40 10-20 10-20	--- --- --- ---	5.5-6.6 5.5-6.6 5.6-6.6 5.7-7.0
29FP03: 29-Chichantna family -----	0-18 18-60	23-43 45-110	8-15 17-75	4.4-6.6 3.8-6.2
29VL02: 29-Urban land -----	---	---	---	---
30DP01: 30-Holitnafamily -----	0-43 43-60	23-45 9-21	6-25 4-7	3.8-6.2 4.5-6.5
30DP03: 30-Oskawalikfamily -----	0-5 5-9 9-12 12-30 30-60	23-45 52-84 5-30 5-30 5-20	6-25 8-30 5-11 3-7 2-6	4.0-6.0 4.0-5.6 4.5-7.0 4.5-7.0 5.3-7.0
30ES01: 30-Waterfall family -----	0-3 3-8 8-19 19-60	52-84 31-60 20-26 ---	8-30 7-14 4-25 ---	3.8-5.5 3.8-5.8 4.5-5.8 ---
30-Rock outcrop	---	---	---	---
30-Sleetmute family -----	0-6 6-8 8-13 13-24 24-60	23-45 30-35 0-25 0-23 15-20	6-25 7-14 4-14 4-12 5-10	3.8-6.3 4.1-6.3 4.5-6.0 5.0-6.5 5.3-7.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
30FP01: 30-Takotna family-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30-Itulilik family-----	0-5	23-45	6-25	4.0-6.0
	5-9	52-84	8-30	4.0-5.6
	9-12	5-30	5-11	4.5-7.0
	12-30	5-30	3-7	4.5-7.0
	30-60	5-20	2-6	5.3-7.0
30FP02: 30-Takotna family-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30FP03: 30-Takotna family-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30-Gerstle family-----	0-4	---	8-30	4.2-4.5
	4-7	20-30	6-10	4.5-6.6
	7-16	10-20	---	5.5-6.5
	16-47	8-12	---	5.5-6.5
	47-60	8-12	---	5.5-6.5
30HI02: 30-Uknavik family-----	0-5	23-45	6-25	4.0-6.0
	5-9	52-84	8-30	4.0-5.6
	9-12	5-30	5-11	4.5-7.0
	12-30	5-30	3-7	4.5-7.0
	30-60	5-20	2-6	5.3-7.0
30-Goldstream family-----	0-5	---	6-25	3.8-4.5
	5-13	---	17-75	3.5-5.0
	13-16	---	4-6	4.2-5.4
	16-22	---	2-5	4.5-5.4
	22-60	---	---	4.5-5.4
30-Holitna family-----	0-43	23-45	6-25	3.8-6.2
	43-60	9-21	4-7	4.5-6.5
30KA02: 30-Kaviriuq-----	0-2	52-84	8-30	3.8-5.5
	2-3	20-30	---	4.3-6.6
	3-6	35-45	---	4.3-6.6
	6-15	5-10	---	5.0-6.9
	15-60	5-10	---	5.5-6.8

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
30KA08: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30-Kaviriuq -----	0-2	52-84	8-30	3.8-5.5
	2-3	20-30	---	4.3-6.6
	3-6	35-45	---	4.3-6.6
	6-15	5-10	---	5.0-6.9
	15-60	5-10	---	5.5-6.8
30MA01: 30-Maqulluq -----	0-5	---	6-25	4.2-4.5
	5-8	---	3-19	4.5-5.4
	8-12	---	2-6	5.0-5.4
	12-30	2-6	3-5	5.0-6.0
	30-60	0-4	---	6.0-6.5
30NU02: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30NU03: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30NU04: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30NU05: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30NU06: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
30NU07: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30-Sleetmute family, hillslopes -----	0-9	---	6-25	3.5-5.0
	9-12	---	3-6	4.6-5.4
	12-18	---	2-5	4.5-5.4
	18-28	---	1-3	4.5-5.4
	28-60	---	2-4	5.0-5.4
30NU08: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30-Sleetmute family, hillslope -----	0-9	---	6-25	3.5-5.0
	9-12	---	3-6	4.6-5.4
	12-18	---	2-5	4.5-5.4
	18-28	---	1-3	4.5-5.4
	28-60	---	2-4	5.0-5.4
30NU12: 30-Nunaniq -----	0-2	52-84	8-30	3.8-5.5
	2-7	20-30	---	4.6-5.6
	7-14	10-15	---	5.0-6.0
	14-35	5-10	---	5.0-6.0
	35-60	5-10	---	5.7-6.4
30-Teggiuq -----	0-8	23-45	6-25	4.2-5.5
	8-10	52-84	8-30	4.2-5.5
	10-22	20-40	---	5.5-6.6
	22-30	10-20	---	5.5-6.6
	30-46	2-5	---	5.5-6.5
	46-60	---	---	6.1-7.3
30-Kaviriuq -----	0-2	52-84	8-30	3.8-5.5
	2-3	20-30	---	4.3-6.6
	3-6	35-45	---	4.3-6.6
	6-15	5-10	---	5.0-6.9
	15-60	5-10	---	5.5-6.8
30OT01: 30-Aleknagik family -----	0-1	---	6-25	3.8-4.9
	1-3	---	7-20	4.0-5.4
	3-6	---	5-15	4.8-5.4
	6-32	8-15	2-8	5.0-5.8
	32-60	3-15	---	5.5-6.3
30-Bonasilafamily -----	0-4	---	8-30	4.2-4.5
	4-7	20-30	6-10	4.5-6.6
	7-16	10-20	---	5.5-6.5
	16-47	8-12	---	5.5-6.5
	47-60	8-12	---	5.5-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
30OT02: 30-Uknavik family -----	0-5	23-45	6-25	4.0-6.0
	5-9	52-84	8-30	4.0-5.6
	9-12	5-30	5-11	4.5-7.0
	12-30	5-30	3-7	4.5-7.0
	30-60	5-20	2-6	5.3-7.0
30-Noonku family -----	0-1	---	8-30	3.8-5.2
	1-28	9-20	---	5.5-6.5
	28-60	1-8	---	5.6-7.0
30SL01: 30-Sleetmute -----	0-3	---	8-30	3.8-5.1
	3-6	31-60	7-14	3.8-5.8
	6-19	17-58	9-13	4.5-5.8
	19-60	20-26	4-25	4.5-5.8
30TE01: 30-Liscum family -----	0-6	23-43	8-15	4.0-6.5
	6-15	52-84	8-30	3.9-6.5
	15-26	15-35	---	5.6-6.5
	26-60	7-14	---	5.6-7.0
30-Hufman family -----	0-53	23-43	8-15	4.4-6.6
	53-60	5-14	---	5.5-6.6
30TQ01: 30-Teggiuq -----	0-8	23-45	6-25	4.2-5.5
	8-10	52-84	8-30	4.2-5.5
	10-22	20-40	---	5.5-6.6
	22-30	10-20	---	5.5-6.6
	30-46	2-5	---	5.5-6.5
	46-60	---	---	6.1-7.3
30TQ02: 30-Teggiuq -----	0-8	23-45	6-25	4.2-5.5
	8-10	52-84	8-30	4.2-5.5
	10-22	20-40	---	5.5-6.6
	22-30	10-20	---	5.5-6.6
	30-46	2-5	---	5.5-6.5
	46-60	---	---	6.1-7.3
30TQ03: 30-Teggiuq -----	0-8	23-45	6-25	4.2-5.5
	8-10	52-84	8-30	4.2-5.5
	10-22	20-40	---	5.5-6.6
	22-30	10-20	---	5.5-6.6
	30-46	2-5	---	5.5-6.5
	46-60	---	---	6.1-7.3
30VL01: 30-Urban land -----	---	---	---	---
30VL02: 30-Urban land -----	---	---	---	---
38DP01: 38-Teggiuq family -----	0-24	---	7-9	3.8-5.4
	24-31	---	3-7	4.0-5.4
	31-60	---	---	6.1-7.3

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
38DP03: 38-Uknavikfamily-----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38ES01: 38-Uknavikfamily, steep-----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38FP01: 38-Salchaket family -----	0-1	115-155	---	5.5-6.6
	1-3	15-45	---	6.0-7.5
	3-28	6-15	---	5.6-6.6
	28-60	6-15	---	5.7-7.0
38-Happy family-----	0-6	115-155	18-25	4.5-6.6
	6-11	15-40	---	5.5-6.6
	11-22	6-15	---	5.6-6.6
	22-60	---	---	5.7-7.0
38FP02: 38-Uknavikfamily-----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38-Karheen family-----	0-7	70-155	7-9	4.4-6.0
	7-22	115-155	18-25	4.4-6.6
	22-60	120-240	25-35	4.4-6.6
38FP03: 38-Takotna family, frequent flooding-----	0-1	52-84	---	5.5-6.6
	1-3	15-40	---	5.5-6.6
	3-28	10-20	---	5.6-6.6
	28-60	10-20	---	5.7-7.0
38-Noonku family, frequent flooding-----	0-7	79-155	6-10	4.6-7.0
	7-31	7-14	2-7	4.4-7.2
	31-60	7-14	2-7	4.4-7.2
38TE01: 38-Teggiuq family-----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	---
38TE03: 38-Inmachuk family -----	0-24	---	7-9	3.8-5.4
	24-31	---	3-7	4.0-5.4
	31-60	---	---	6.1-7.3
38-Teggiuq family-----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	---

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
38UL01:				
38-Ulesqiirluni-----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
38UL02:				
38-Ulesqiirluni-----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
38-Uknavikfamily-----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38UT01:				
38-Ulet-----	0-2	115-155	---	6.1-6.5
	2-6	15-30	---	6.1-7.3
	6-9	0-5	---	7.0-8.0
	9-60	5-15	---	5.5-7.0
38VL02:				
38-Urban land-----	---	---	---	---
D29FPA:				
29-Boreal forest, loamy flood plains -----	0-1	52-84	---	5.5-6.6
	1-3	15-40	---	5.5-6.6
	3-28	10-20	---	5.6-6.6
	28-60	10-20	---	5.7-7.0
29-Boreal scrub, loamy flood plains, frequent flooding ---	0-10	10-25	---	6.5-7.5
	10-17	6-15	---	6.5-7.5
	17-39	10-25	---	6.5-7.5
	39-60	10-25	---	6.5-7.5
D29FPB:				
29-Boreal forest, sandy flood plains -----	0-2	23-43	---	6.1-7.2
	2-10	20-25	---	6.1-7.5
	10-20	10-35	6-20	4.5-6.5
	20-60	0-4	---	7.0-8.0
29-Boreal forest, loamy flood plains -----	0-1	52-84	---	5.5-6.6
	1-3	15-40	---	5.5-6.6
	3-28	10-20	---	5.6-6.6
	28-60	10-20	---	5.7-7.0
D29FPC:				
29-Boreal grass, loamy flood plains -----	0-2	52-84	---	5.6-7.8
	2-9	10-25	---	5.9-7.8
	9-18	6-15	---	6.2-7.6
	18-60	6-15	---	6.2-7.8
29-Boreal scrub, loamy depressions -----	0-7	79-155	6-10	4.6-7.0
	7-31	7-14	2-7	4.4-7.2
	31-60	7-14	2-7	4.4-7.2

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D29FPE:				
29-Boreal scrub, loamy flood plains, frequent flooding ----	0-10	10-25	---	6.5-7.5
	10-17	6-15	---	6.5-7.5
	17-39	10-25	---	6.5-7.5
	39-60	10-25	---	6.5-7.5
29-Boreal forest, loamy flood plains, frequent flooding ----	0-1	52-84	---	5.5-6.6
	1-3	15-40	---	5.5-6.6
	3-28	10-20	---	5.6-6.6
	28-60	10-20	---	5.7-7.0
D29FPG:				
29-Boreal grass, organic depressions-----	0-53	23-43	8-15	4.4-6.6
	53-60	5-14	---	5.5-6.6
29-Boreal scrub, loamy depressions -----	0-7	79-155	6-10	4.6-7.0
	7-31	7-14	2-7	4.4-7.2
	31-60	7-14	2-7	4.4-7.2
D29TEA:				
29-Boreal woodland, loamy terraces -----	0-4	---	8-30	3.8-4.7
	4-12	20-30	---	4.8-5.5
	12-22	10-21	4-14	5.0-5.9
	22-43	6-12	3-12	4.8-6.2
	43-60	0-12	0-7	4.5-6.2
29-Boreal scrub, loamy flood plains, rare flooding -----	0-10	10-25	---	6.5-7.5
	10-17	6-15	---	6.5-7.5
	17-39	10-25	---	6.5-7.5
	39-60	10-25	---	6.5-7.5
29-Boreal woodland, sandy terraces -----	0-5	---	6-25	4.2-4.5
	5-8	---	3-19	4.5-5.4
	8-12	---	2-6	5.0-5.4
	12-30	2-6	1-5	5.0-6.0
	30-60	0-4	---	6.0-6.5
D29TEB:				
29-Boreal grass, organic flood plains, rare flooding -----	0-47	52-84	8-30	3.8-6.6
	47-51	23-43	8-15	4.4-6.6
	51-60	5-12	---	5.5-6.5
29-Boreal scrub, loamy depressions -----	0-7	79-155	6-10	4.6-7.0
	7-31	7-14	2-7	4.4-7.2
	31-60	7-14	2-7	4.4-7.2
D29TEC:				
29-Boreal grass, organic flood plains, rare flooding -----	0-47	52-84	8-30	3.8-6.6
	47-51	23-43	8-15	4.4-6.6
	51-60	5-12	---	5.5-6.5
29-Boreal scrub, organic depressions-----	0-18	23-43	8-15	4.0-5.8
	18-60	79-155	17-75	4.8-6.2

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>D30FAC:</b>				
30-Boreal forest, loamy fans-----	0-5	23-45	6-25	4.0-6.0
	5-9	52-84	8-30	4.0-5.6
	9-12	5-30	5-11	4.5-7.0
	12-30	5-30	3-7	4.5-7.0
	30-60	5-20	2-6	5.3-7.0
30-Boreal scrub, loamy fans-----	0-8	---	6-25	3.5-4.5
	8-15	---	8-30	4.0-5.0
	15-17	24-26	5-30	4.5-5.6
	17-22	8-11	5-30	4.5-6.0
	22-60	---	---	4.5-6.0
30-Boreal forest, loamy terraces-----	0-4	---	8-30	4.2-4.5
	4-7	20-30	6-10	4.5-6.6
	7-16	10-20	---	5.5-6.5
	16-47	8-12	---	5.5-6.5
	47-60	8-12	---	5.5-6.5
30-Boreal sedge, loamy depressions, occasional flooding-----	0-1	23-45	6-25	4.0-6.0
	1-10	20-40	6-20	4.5-6.6
	10-37	0-9	3-7	5.3-7.0
	37-60	0-8	---	5.6-7.0
<b>D30FAD:</b>				
30-Boreal scrub, gravelly drainages, outwash fan-----	0-1	---	8-30	3.8-5.2
	1-28	9-20	---	5.5-6.5
	28-60	1-8	---	5.6-7.0
30-Boreal scrub, loamy drainages, outwash fan-----	0-8	---	8-30	3.8-5.0
	8-10	4-25	3-10	4.5-6.1
	10-25	5-30	2-5	4.5-6.1
	25-60	1-5	---	5.6-7.0
<b>D30FPA:</b>				
30-Boreal forest, loamy flood plains-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30-Boreal forest, sandy flood plains-----	0-1	23-45	---	6.1-7.2
	1-3	20-25	---	6.1-7.2
	3-41	12-15	---	5.6-8.0
	41-60	0-4	---	7.0-8.0
<b>D30FPD:</b>				
30-Boreal sedge, loamy depressions-----	0-1	23-45	6-25	4.0-6.0
	1-10	20-40	6-20	4.5-6.6
	10-37	0-9	3-7	5.3-7.0
	37-60	0-8	---	5.6-7.0
30-Boreal forest, loamy flood plains-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30-Water-----	---	---	---	---

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D30FPE:				
30-Boreal scrub, gravelly flood plains, frequent flooding--	0-1	23-45	6-25	5.0-6.0
	1-4	3-9	---	6.8-8.0
	4-47	0-0	---	5.6-7.0
	47-60	4-7	---	6.6-7.8
30-Boreal scrub, silty flood plains, frequent flooding -----	0-10	52-84	17-30	4.6-6.5
	10-22	30-35	2-6	5.4-6.6
	22-60	5-10	---	5.7-6.6
D30FPF:				
30-Boreal scrub, silty flood plains -----	0-10	52-84	17-30	4.6-6.5
	10-22	30-35	2-6	5.4-6.6
	22-60	5-10	---	5.7-6.6
30-Boreal forest, loamy flood plains -----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
D30FPH:				
30-Boreal scrub, loamy flood plains -----	0-6	52-84	8-30	3.8-6.6
	6-11	20-40	6-20	5.3-6.6
	11-18	10-25	---	5.6-6.6
	18-30	10-25	---	5.6-6.6
	30-60	---	---	5.7-7.0
30-Boreal scrub, silty flood plains -----	0-10	52-84	17-30	4.6-6.5
	10-22	30-35	2-6	5.4-6.6
	22-60	5-10	---	5.7-6.6
30-Boreal forest, loamy flood plains -----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
D30HIA:				
30-Boreal forest, silty eolian slopes-----	0-2	52-84	8-30	4.0-5.6
	2-5	10-15	6-12	4.0-5.6
	5-11	30-35	4-7	4.6-5.9
	11-30	5-10	3-5	4.8-6.4
	30-60	5-10	3-7	4.8-6.8
30-Boreal forest, loamy eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5
30-Boreal forest, gravelly colluvial slopes-----	0-3	---	6-25	3.5-5.4
	3-5	---	0-7	4.5-5.4
	5-14	17-58	9-13	4.5-5.8
	14-20	15-45	7-11	4.5-5.8
	20-60	6-28	4-25	4.5-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>D30HIB:</b>				
30-Boreal forest, silty eolian slopes-----	0-2	52-84	8-30	4.0-5.6
	2-5	10-15	6-12	4.0-5.6
	5-11	30-35	4-7	4.6-5.9
	11-30	5-10	3-5	4.8-6.4
	30-60	5-10	3-7	4.8-6.8
30-Boreal taiga, loamy eolian slopes-----	0-8	---	6-25	3.8-4.9
	8-11	---	8-30	3.8-5.0
	11-16	20-40	7-11	5.0-6.0
	16-31	5-15	---	5.5-7.0
	31-60	---	---	5.5-7.0
30-Boreal scrub-sedge, loamy eolian slopes-----	0-4	52-84	8-30	3.8-5.6
	4-8	---	7-20	4.1-5.0
	8-12	---	5-15	4.1-5.0
	12-60	5-15	2-8	5.0-6.2
<b>D30MTA:</b>				
30-Boreal forest, loamy eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5
30-Boreal woodland, loamy eolian slopes-----	0-2	---	6-25	3.8-4.8
	2-4	---	8-30	4.0-5.3
	4-8	24-26	3-9	4.4-5.6
	8-10	4-11	4-7	5.2-6.0
	10-60	4-10	6-8	5.4-6.8
30-Subalpine scrub, gravelly colluvial slopes-----	0-2	---	8-30	3.8-5.1
	2-6	24-26	0-7	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-24	6-15	4-25	4.5-5.8
	24-60	20-25	3-6	5.0-6.5
<b>D30MTB:</b>				
30-Boreal woodland, loamy eolian slopes-----	0-2	---	6-25	3.8-4.8
	2-4	---	8-30	4.0-5.3
	4-8	24-26	3-9	4.4-5.6
	8-10	4-11	4-7	5.2-6.0
	10-60	4-10	6-8	5.4-6.8
30-Boreal taiga, loamy eolian slopes-----	0-8	---	6-25	3.8-4.9
	8-11	---	8-30	3.8-5.0
	11-16	20-40	7-11	5.0-6.0
	16-31	5-15	---	5.5-7.0
	31-60	---	---	5.5-7.0
30-Boreal forest, loamy eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>D30MTC:</b>				
30-Boreal forest, gravelly colluvial slopes -----	0-3	---	6-25	3.5-5.4
	3-5	---	0-7	4.5-5.4
	5-14	17-58	9-13	4.5-5.8
	14-20	15-45	7-11	4.5-5.8
	20-60	6-28	4-25	4.5-6.5
30-Boreal woodland, loamy colluvial slopes -----	0-11	23-45	6-25	3.8-6.3
	11-15	30-35	7-14	4.1-6.3
	15-18	10-15	9-13	4.5-6.5
	18-60	15-20	5-10	5.3-7.0
30-Subalpine scrub, gravelly colluvial slopes -----	0-2	---	8-30	3.8-5.1
	2-6	24-26	0-7	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-24	6-15	4-25	4.5-5.8
	24-60	20-25	3-6	5.0-6.5
<b>D30MTD:</b>				
30-Boreal woodland, gravelly colluvial slopes -----	0-6	23-45	6-25	3.8-6.3
	6-8	30-35	7-14	4.1-6.3
	8-13	0-25	4-14	4.5-6.0
	13-24	0-23	4-12	5.0-6.5
	24-60	15-20	5-10	5.3-7.0
30-Boreal taiga, loamy colluvial slopes -----	0-5	---	6-25	3.8-4.5
	5-13	---	17-75	3.5-5.0
	13-16	---	4-6	4.2-5.4
	16-22	---	2-5	4.5-5.4
	22-60	---	---	4.5-5.4
30-Subalpine scrub, gravelly colluvial slopes -----	0-2	---	8-30	3.8-5.1
	2-6	24-26	0-7	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-24	6-15	4-25	4.5-5.8
	24-60	20-25	3-6	5.0-6.5
<b>D30TEA:</b>				
30-Boreal woodland, sandy terraces -----	0-5	---	6-25	4.2-4.5
	5-8	---	3-19	4.5-5.4
	8-12	---	2-6	5.0-5.4
	12-30	2-6	3-5	5.0-6.0
	30-60	0-4	---	6.0-6.5
30-Boreal woodland, loamy terraces -----	0-4	---	8-30	3.8-4.7
	4-12	20-30	6-20	4.8-5.5
	12-22	10-20	7-15	5.0-5.9
	22-43	8-12	3-6	4.8-6.2
	43-60	8-12	0-5	4.5-6.2
30-Boreal woodland, gravelly terraces -----	0-7	---	---	4.2-5.2
	7-11	---	8-30	3.8-5.1
	11-16	15-35	6-20	4.5-6.5
	16-27	5-9	2-5	4.5-7.0
	27-60	0-6	---	5.8-7.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D30TEB:				
30-Boreal scrub, silty terraces-----	0-4	---	6-25	3.4-4.5
	4-7	15-35	4-8	3.8-5.6
	7-9	45-110	17-42	4.5-5.6
	9-13	7-14	2-6	4.6-5.6
	13-23	0-8	3-8	4.6-5.9
	23-60	0-8	2-6	4.6-6.5
30-Boreal sedge, loamy depressions-----	0-1	23-45	6-25	4.0-6.0
	1-10	20-40	6-20	4.5-6.6
	10-37	0-9	3-7	5.3-7.0
	37-60	0-8	---	5.6-7.0
30-Boreal scrub, organic depressions -----	0-39	52-84	8-30	3.8-6.2
	39-47	23-45	6-25	3.8-6.2
	47-60	52-84	8-30	3.8-6.2
D30TEF:				
30-Boreal scrub-sedge, loamy terraces-----	0-3	23-45	6-25	3.9-5.9
	3-10	52-84	8-30	4.3-5.7
	10-17	15-30	6-10	4.5-6.5
	17-26	15-30	2-5	5.1-6.6
	26-60	---	---	6.0-6.9
30-Boreal scrub, loamy terraces-----	0-16	---	6-25	3.8-5.2
	16-25	52-84	8-30	3.8-6.6
	25-28	15-30	6-10	4.5-6.5
	28-30	5-15	---	5.5-6.5
	30-60	---	---	5.5-6.5
30-Boreal taiga, loamy terraces-----	0-10	---	6-25	3.4-5.2
	10-13	24-26	6-10	4.5-6.2
	13-29	5-10	5-7	5.1-6.6
	29-60	---	---	5.1-6.6
D30TEG:				
30-Boreal scrub, organic terraces-----	0-24	23-45	6-25	4.3-6.5
	24-59	52-84	8-30	4.3-6.5
	59-60	45-110	17-75	4.5-6.5
30-Boreal sedge, loamy depressions-----	0-1	23-45	6-25	4.0-6.0
	1-10	20-40	6-20	4.5-6.6
	10-37	0-9	3-7	5.3-7.0
	37-60	0-8	---	5.6-7.0
D38FPA:				
38-Boreal forest, silty flood plains, occasional flooding----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
38-Boreal scrub, silty flood plains, moderately wet -----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D38FPB:				
38-Boreal forest, sandy flood plains -----	0-2	70-155	---	6.1-6.5
	2-8	15-45	---	6.1-6.5
	8-39	6-15	---	5.6-6.5
	39-60	0-4	---	7.0-8.0
38-Boreal scrub, silty flood plains -----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38-Boreal scrub, sandy flood plains -----	0-3	115-155	---	6.1-6.5
	3-7	15-30	---	6.1-6.5
	7-60	0-5	---	7.0-8.0
D38FPC:				
38-Boreal scrub, silty flood plains -----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38-Boreal sedge, loamy depressions, occasional flooding -----	0-1	---	7-9	4.0-5.4
	1-28	7-15	---	5.6-7.0
	28-60	0-15	---	5.6-7.0
38-Boreal grass, organic flood plains-----	0-47	115-155	18-25	3.8-6.6
	47-51	70-155	7-9	4.4-6.6
	51-60	7-14	---	5.5-6.5
D38FPD:				
38-Boreal scrub, silty flood plains -----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
38-Boreal forest, silty flood plains -----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
D38FPE:				
38-Boreal scrub, gravelly flood plains, frequent flooding--	0-4	2-7	---	6.8-8.0
	4-47	0-3	---	5.6-7.0
	47-60	0-2	---	7.4-7.8
38-Boreal scrub, silty flood plains, frequent flooding -----	0-4	115-155	7-10	4.6-6.5
	4-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
D38FPF:				
38-Boreal scrub, loamy flood plains, Yukon Delta -----	0-6	115-155	18-25	4.5-6.6
	6-11	15-40	---	5.5-6.6
	11-30	6-15	---	5.6-6.6
	30-60	---	---	5.7-7.0
38-Boreal forest, silty flood plains, moderately wet-----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D38FPF: 38-Boreal taiga, organic terraces, rare flooding -----	0-20	---	7-9	3.4-5.4
	20-25	---	18-25	3.4-5.4
	25-32	5-15	1-6	5.1-6.6
	32-60	---	---	5.2-6.7
D38HIB: 38-Boreal scrub, loamy eolian slopes, frozen, wet-----	0-15	---	7-9	3.8-4.9
	15-28	---	5-15	4.0-5.4
	28-42	5-11	2-7	4.8-5.8
	42-60	---	---	5.2-6.7
38-Boreal woodland, loamy eolian slopes, Yukon-Kuskokwim Coastal Plain -----	0-4	---	18-25	4.0-5.3
	4-8	8-13	6-10	4.4-5.6
	8-11	20-45	6-10	5.2-6.0
	11-19	10-40	4-10	5.2-6.0
	19-60	5-10	3-8	5.4-6.8
38-Boreal scrub-sedge, loamy terraces, frozen -----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	5.4-6.9
D38TEB: 38-Boreal sedge, loamy depressions-----	0-1	---	7-9	4.0-5.4
	1-7	15-40	6-20	5.1-6.5
	7-28	7-15	---	5.6-7.0
	28-60	0-15	---	5.6-7.0
38-Boreal sedge, organic depressions-----	0-7	70-155	7-9	4.4-6.0
	7-22	115-155	18-25	4.4-6.6
	22-60	120-240	25-35	4.4-6.6
38-Boreal forest, silty flood plains, rare flooding-----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
38-Boreal scrub-sedge, loamy terraces-----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	---
38-Water -----	---	---	---	---
D38TEC: 38-Boreal taiga, organic terraces-----	0-20	---	7-9	3.4-5.4
	20-25	---	18-25	3.4-5.4
	25-32	5-15	1-6	5.1-6.6
	32-60	---	---	---
38-Boreal scrub-sedge, loamy terraces-----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	---

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
D38TEC:				
38-Boreal dwarf scrub, silty terraces -----	0-12	---	7-9	3.8-5.0
	12-13	---	6-10	4.5-5.4
	13-22	5-15	3-8	4.5-6.0
	22-47	3-9	2-7	4.5-6.0
	47-60	3-9	---	5.5-6.5
D38TED:				
38-Boreal scrub-sedge, loamy terraces-----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	---
38-Boreal scrub, loamy terraces -----	0-4	---	25-35	3.8-4.5
	4-8	15-40	---	5.5-6.6
	8-14	10-20	---	5.5-6.5
	14-22	8-12	---	5.5-6.5
	22-60	7-15	---	5.5-6.6
38-Boreal scrub-sedge, organic terraces-----	0-24	---	7-9	3.8-5.4
	24-31	---	3-7	4.0-5.4
	31-60	---	---	6.1-7.3
R29FPC:				
29-Boreal forest, gravelly flood plains-----	0-3	52-84	8-30	4.5-6.0
	3-5	10-35	6-20	4.5-6.5
	5-12	8-12	---	5.5-6.5
	12-43	7-14	---	5.5-7.0
	43-60	0-2	---	5.6-7.0
29-Boreal forest, loamy flood plains -----	0-1	52-84	---	5.5-6.6
	1-3	15-40	---	5.5-6.6
	3-28	10-20	---	5.6-6.6
	28-60	10-20	---	5.7-7.0
29-Boreal grass, organic flood plains-----	0-47	52-84	8-30	3.8-6.6
	47-51	23-43	8-15	4.4-6.6
	51-60	5-12	---	5.5-6.5
R29FPD:				
29-Boreal scrub, loamy flood plains -----	0-10	10-25	---	6.5-7.5
	10-17	6-15	---	6.5-7.5
	17-39	10-25	---	6.5-7.5
	39-60	10-25	---	6.5-7.5
29-Boreal grass, loamy flood plains -----	0-2	52-84	---	5.6-7.8
	2-9	10-25	---	5.9-7.8
	9-18	6-15	---	6.2-7.6
	18-60	6-15	---	6.2-7.8
R29FPE:				
29-Boreal scrub, organic flood plains -----	0-28	52-84	8-30	5.0-6.6
	28-33	8-12	---	5.5-6.5
	33-60	---	---	5.7-7.0
29-Boreal grass, organic flood plains-----	0-47	52-84	8-30	3.8-6.6
	47-51	23-43	8-15	4.4-6.6
	51-60	5-12	---	5.5-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R29FPF:</b>				
29-Boreal forest, gravelly flood plains -----	0-3	52-84	8-30	4.5-6.0
	3-5	10-35	6-20	4.5-6.5
	5-12	8-12	---	5.5-6.5
	12-43	7-14	---	5.5-7.0
	43-60	0-2	---	5.6-7.0
29-Boreal woodland, sandy terraces -----	0-5	---	6-25	4.2-4.5
	5-8	---	3-19	4.5-5.5
	8-12	---	2-6	5.0-5.5
	12-30	2-6	---	5.0-6.0
	30-60	0-4	---	6.0-6.5
29-Boreal scrub, loamy flood plains -----	0-10	10-25	---	6.5-7.5
	10-17	6-15	---	6.5-7.5
	17-39	10-25	---	6.5-7.5
	39-60	10-25	---	6.5-7.5
<b>R29PLA:</b>				
29-Boreal grass, loamy depressions -----	0-2	---	8-30	3.9-4.2
	2-6	---	6-8	4.3-5.4
	6-19	9-21	4-7	5.2-5.6
	19-59	5-10	4-7	5.5-5.9
	59-60	7-14	2-6	5.5-5.9
29-Boreal woodland, silty terraces -----	0-10	---	8-30	3.8-4.7
	10-12	---	4-10	3.5-5.0
	12-22	20-30	5-8	4.5-6.0
	22-54	10-20	3-6	5.0-6.5
	54-60	5-35	2-5	5.4-6.6
29-Boreal forest, loamy till plains -----	0-1	---	22-75	3.8-5.1
	1-2	---	6-15	4.0-5.5
	2-5	25-41	9-15	5.0-6.0
	5-15	6-25	5-20	4.8-6.0
	15-60	5-20	4-15	4.8-6.0
29-Boreal sedge, organic depressions -----	0-7	---	8-15	3.5-5.0
	7-17	---	8-30	3.5-4.8
	17-28	---	17-75	4.0-5.0
	28-60	4-10	2-7	4.4-5.9
<b>R29PLB:</b>				
29-Boreal sedge, organic plains -----	0-26	---	8-15	3.5-4.4
	26-39	---	---	---
	39-60	---	8-30	3.5-5.5
29-Water -----	---	---	---	---
<b>R29UPA:</b>				
29-Boreal scrub, organic plains -----	0-17	---	8-30	3.8-4.8
	17-22	---	6-10	4.0-5.2
	22-27	---	6-10	4.6-5.2
	27-60	---	---	5.0-6.6
29-Boreal sedge, organic depressions -----	0-7	---	8-15	3.5-5.0
	7-17	---	8-30	3.5-4.8
	17-28	---	17-75	4.0-5.0
	28-60	4-10	2-7	4.4-5.9

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
R29UPA: 29-Boreal taiga, silty plains-----	0-15	---	8-15	3.5-5.0
	15-20	---	4-10	3.5-5.0
	20-28	12-20	4-5	5.0-6.5
	28-60	8-12	2-4	5.0-6.5
R29UPB: 29-Boreal forest, silty eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-5	25-40	6-12	4.0-5.6
	5-15	9-21	4-9	4.6-5.9
	15-24	5-11	---	5.5-6.4
	24-60	20-35	---	6.5-7.8
29-Boreal taiga, silty eolian slopes-----	0-10	52-84	8-30	3.5-5.6
	10-33	9-21	4-7	4.5-5.8
	33-60	5-10	4-6	4.5-5.8
29-Subalpine woodland, silty colluvial slopes-----	0-10	---	8-15	3.4-4.5
	10-12	---	8-30	3.8-4.7
	12-19	21-50	7-14	3.8-5.6
	19-35	20-45	9-13	4.6-5.9
	35-57	20-25	0-6	4.6-6.0
	57-59	45-110	17-42	6.0-7.3
	59-60	20-25	---	6.0-7.5
R29UPC: 29-Boreal woodland, sandy terraces-----	0-5	---	6-25	4.2-4.5
	5-8	---	3-19	4.5-5.5
	8-12	---	2-6	5.0-5.5
	12-30	2-6	---	5.0-6.0
	30-60	0-4	---	6.0-6.5
29-Boreal forest, sandy terraces-----	0-2	---	8-15	4.0-4.5
	2-4	---	3-19	4.5-5.5
	4-6	33-41	6-8	5.0-5.8
	6-22	10-21	4-10	5.0-7.0
	22-50	2-10	---	5.5-7.0
	50-60	0-4	---	6.0-7.0
R29WAA: 29-Water-----	---	---	---	---
R30FPA: 30-Boreal forest, gravelly flood plains-----	0-4	52-84	8-30	4.5-6.0
	4-13	8-12	6-20	4.5-6.5
	13-25	8-12	---	5.5-6.5
	25-39	3-9	---	5.5-7.0
	39-60	0-0	---	5.6-7.0
30-Boreal forest, loamy flood plains-----	0-1	52-84	8-30	3.8-6.6
	1-3	20-40	---	5.6-6.6
	3-28	10-25	---	5.6-6.6
	28-60	10-25	---	5.7-7.0
30-Boreal scrub, gravelly flood plains-----	0-1	23-45	6-25	5.0-6.0
	1-4	3-9	---	6.8-8.0
	4-47	0-0	---	5.6-7.0
	47-60	4-7	---	6.6-7.8

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R30FPA:</b>				
30-Boreal scrub, silty terraces-----	0-4	---	6-25	3.4-4.5
	4-7	15-35	4-8	3.8-5.6
	7-9	45-110	17-42	4.5-5.6
	9-13	7-14	2-6	4.6-5.6
	13-23	0-8	3-8	4.6-5.9
	23-60	0-8	2-6	4.6-6.5
<b>R30HIA:</b>				
30-Boreal forest, loamy eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5
30-Boreal taiga, loamy eolian slopes-----	0-8	---	6-25	3.8-4.9
	8-11	---	8-30	3.8-5.0
	11-16	20-40	7-11	5.0-6.0
	16-31	5-15	---	5.5-7.0
	31-60	---	---	5.5-7.0
30-Boreal scrub, organic depressions-----	0-39	52-84	8-30	3.8-6.2
	39-47	23-45	6-25	3.8-6.2
	47-60	52-84	8-30	3.8-6.2
<b>R30HID:</b>				
30-Boreal forest, silty colluvial slopes-----	0-4	52-84	8-30	4.0-5.6
	4-12	25-60	---	5.5-7.4
	12-20	17-50	---	5.5-7.4
	20-60	20-30	---	5.5-7.4
30-Boreal forest, silty eolian slopes, rocky-----	0-4	52-84	8-30	4.0-5.6
	4-5	25-40	6-12	4.0-5.6
	5-15	9-21	4-9	4.6-5.9
	15-24	5-11	---	5.5-6.4
	24-60	20-35	---	6.5-7.8
30-Subalpine woodland, silty colluvial slopes-----	0-10	---	8-15	3.4-4.5
	10-12	---	8-30	3.8-4.7
	12-19	21-50	7-14	3.8-5.6
	19-35	20-45	9-13	4.6-5.9
	35-57	20-25	0-6	4.6-6.0
	57-59	45-110	17-42	6.0-7.3
	59-60	20-25	---	6.0-7.5
<b>R30MTA:</b>				
30-Boreal forest, silty eolian slopes-----	0-2	52-84	8-30	4.0-5.6
	2-5	10-15	6-12	4.0-5.6
	5-11	30-35	4-7	4.6-5.9
	11-30	5-10	3-5	4.8-6.4
	30-60	5-10	3-7	4.8-6.8
30-Boreal forest, loamy eolian slopes-----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R30MTA:</b>				
30-Boreal woodland, gravelly colluvial slopes -----	0-6	23-45	6-25	3.8-6.3
	6-8	30-35	7-14	4.1-6.3
	8-13	0-25	4-14	4.5-6.0
	13-24	0-23	4-12	5.0-6.5
	24-60	15-20	5-10	5.3-7.0
<b>R30MTB:</b>				
30-Boreal taiga, loamy colluvial slopes -----	0-5	---	6-25	3.8-4.5
	5-13	---	17-75	3.5-5.0
	13-16	---	4-6	4.2-5.4
	16-22	---	2-5	4.5-5.4
	22-60	---	---	4.5-5.4
30-Boreal forest, gravelly colluvial slopes -----	0-3	---	6-25	3.5-5.4
	3-5	---	0-7	4.5-5.4
	5-14	17-58	9-13	4.5-5.8
	14-20	15-45	7-11	4.5-5.8
	20-60	6-28	4-25	4.5-6.5
30-Boreal scrub, loamy eolian slopes -----	0-1	---	6-25	3.8-4.9
	1-3	---	7-20	4.0-5.4
	3-6	---	5-15	4.8-5.4
	6-32	8-15	2-8	5.0-5.8
	32-60	3-15	---	5.5-6.3
30-Subalpine forest, gravelly residual slopes -----	0-4	---	6-25	3.5-5.0
	4-7	20-30	5-15	4.1-5.7
	7-14	15-25	15-30	4.6-6.2
	14-60	10-20	5-10	5.1-7.0
30-Subalpine scrub, loamy colluvial slopes -----	0-3	---	8-30	3.8-4.6
	3-5	31-60	5-15	4.3-5.6
	5-10	17-58	5-15	4.8-5.6
	10-20	6-15	5-15	5.0-6.0
	20-60	3-6	20-30	5.0-6.0
<b>R30MTC:</b>				
30-Boreal forest, gravelly colluvial slopes -----	0-3	---	6-25	3.5-5.4
	3-5	---	0-7	4.5-5.4
	5-14	17-58	9-13	4.5-5.8
	14-20	15-45	7-11	4.5-5.8
	20-60	6-28	4-25	4.5-6.5
30-Boreal scrub, silty colluvial slopes -----	0-7	23-43	8-15	4.0-5.6
	7-9	45-110	17-75	4.5-5.6
	9-13	---	3-9	4.1-5.4
	13-22	---	3-9	4.1-5.4
	22-41	---	4-25	5.0-5.4
	41-60	---	---	---
30-Subalpine woodland, gravelly colluvial slopes -----	0-6	---	6-25	3.5-4.4
	6-7	---	5-15	4.4-5.4
	7-15	20-30	5-15	4.6-5.6
	15-22	15-25	15-30	5.0-6.0
	22-60	15-25	15-30	5.0-6.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R30MTC:</b>				
30-Boreal taiga, loamy colluvial slopes -----	0-5	---	6-25	3.8-4.5
	5-13	---	17-75	3.5-5.0
	13-16	---	4-6	4.2-5.4
	16-22	---	2-5	4.5-5.4
	22-60	---	---	4.5-5.4
<b>R30MTD:</b>				
30-Alpine herbaceous, gravelly colluvial slopes -----	0-1	---	8-30	3.8-5.1
	1-4	---	0-7	4.4-5.0
	4-20	---	0-8	4.5-5.4
	20-28	6-14	0-5	5.0-6.0
	28-60	---	---	---
30-Rock outcrop, igneous -----	---	---	---	---
30-Subalpine woodland, gravelly colluvial slopes -----	0-6	---	6-25	3.5-4.4
	6-7	---	5-15	4.4-5.4
	7-15	20-30	5-15	4.6-5.6
	15-22	15-25	15-30	5.0-6.0
	22-60	15-25	15-30	5.0-6.0
30-Alpine dwarf scrub, gravelly till slopes -----	0-4	---	6-25	3.8-5.1
	4-11	---	8-12	4.0-5.0
	11-21	---	3-8	4.4-5.4
	21-31	---	0-5	4.4-5.4
	31-60	0-14	0-14	4.5-5.6
<b>R30MTE:</b>				
30-Alpine herbaceous, gravelly colluvial slopes -----	0-1	---	8-30	3.8-5.1
	1-4	---	0-7	4.4-5.0
	4-20	---	0-8	4.5-5.4
	20-28	6-14	0-5	5.0-6.0
	28-60	---	---	---
30-Subalpine scrub, gravelly colluvial slopes -----	0-2	---	8-30	3.8-5.1
	2-6	24-26	0-7	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-24	6-15	4-25	4.5-5.8
	24-60	20-25	3-6	5.0-6.5
30-Subalpine woodland, loamy colluvial slopes -----	0-4	---	8-30	3.2-4.5
	4-10	22-63	12-16	5.0-6.0
	10-12	17-58	9-13	4.6-6.6
	12-24	6-15	2-8	5.0-6.5
	24-60	---	---	---
<b>R30UPA:</b>				
30-Boreal taiga, silty plains -----	0-9	---	6-25	3.8-5.0
	9-15	---	8-30	3.8-4.5
	15-19	24-26	5-10	4.5-5.5
	19-35	10-20	3-7	4.5-6.0
	35-60	---	---	4.5-6.0
30-Subalpine woodland, loamy till slopes -----	0-7	---	8-30	3.8-5.1
	7-11	---	9-21	4.0-5.4
	11-17	5-10	---	5.5-6.0
	17-34	0-8	6-14	4.8-6.0
	34-60	0-8	4-9	4.8-6.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
R30UPA: 30-Subalpine sedge, organic depressions -----	0-39	23-45	6-25	3.8-6.6
	39-60	52-84	8-30	4.0-6.6
R30UPB: 30-Boreal forest, loamy eolian slopes -----	0-4	52-84	8-30	4.0-5.6
	4-6	---	3-9	4.1-5.4
	6-8	33-45	4-11	5.0-5.5
	8-20	9-21	3-10	5.0-6.0
	20-37	6-11	3-6	5.2-6.0
	37-60	0-10	4-25	5.2-6.5
30-Boreal scrub, loamy colluvial slopes -----	0-9	---	6-25	3.5-5.0
	9-12	---	3-6	4.6-5.4
	12-18	---	2-5	4.5-5.4
	18-28	---	1-3	4.5-5.4
	28-60	---	2-4	5.0-5.4
30-Boreal tussock-scrub, loamy plains-----	0-9	---	6-25	3.5-4.5
	9-14	---	8-30	3.8-5.3
	14-19	15-25	7-12	4.5-5.5
	19-24	15-25	3-5	4.8-5.6
	24-60	---	---	5.1-6.7
30-Rock outcrop, rhyolite -----	---	---	---	---
R30UPC: 30-Boreal forest, gravelly colluvial slopes -----	0-3	---	6-25	3.5-5.4
	3-5	---	0-7	4.5-5.4
	5-14	17-58	9-13	4.5-5.8
	14-20	15-45	7-11	4.5-5.8
	20-60	6-28	4-25	4.5-6.5
30-Subalpine woodland, loamy till slopes -----	0-7	---	8-30	3.8-5.1
	7-11	---	9-21	4.0-5.4
	11-17	5-10	---	5.5-6.0
	17-34	0-8	6-14	4.8-6.0
	34-60	0-8	4-9	4.8-6.0
30-Boreal forest, silty eolian slopes -----	0-2	52-84	8-30	4.0-5.6
	2-5	10-15	6-12	4.0-5.6
	5-11	30-35	4-7	4.6-5.9
	11-30	5-10	3-5	4.8-6.4
	30-60	5-10	3-7	4.8-6.8
30-Subalpine scrub, gravelly colluvial slopes -----	0-2	---	8-30	3.8-5.1
	2-6	24-26	0-7	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-24	6-15	4-25	4.5-5.8
	24-60	20-25	3-6	5.0-6.5

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
R30UPD:				
30-Boreal tussock-scrub, loamy plains-----	0-9	---	6-25	3.5-4.5
	9-14	---	8-30	3.8-5.3
	14-19	15-25	7-12	4.5-5.5
	19-24	15-25	3-5	4.8-5.6
	24-60	---	---	5.1-6.7
30-Boreal dwarf scrub, silty plains -----	0-7	---	18-25	3.8-5.0
	7-9	---	6-10	4.5-5.4
	9-18	10-20	3-7	4.5-5.8
	18-28	5-11	2-6	4.5-5.8
	28-60	---	---	4.5-5.8
30-Boreal sedge, organic depressions-----	0-11	23-45	6-25	3.8-6.2
	11-21	52-84	8-30	3.8-6.2
	21-60	45-110	17-75	3.8-6.2
30-Boreal scrub, loamy terraces-----	0-16	---	6-25	3.8-5.2
	16-25	52-84	8-30	3.8-6.6
	25-28	15-30	6-10	4.5-6.5
	28-43	5-15	---	5.5-6.5
	43-60	---	---	5.5-6.5
R30UPE:				
30-Boreal tussock-scrub, loamy plains-----	0-9	---	6-25	3.5-4.5
	9-14	---	8-30	3.8-5.3
	14-19	15-25	7-12	4.5-5.5
	19-24	15-25	3-5	4.8-5.6
	24-60	---	---	5.1-6.7
30-Boreal taiga, loamy eolian slopes-----	0-8	---	6-25	3.8-4.9
	8-11	---	8-30	3.8-5.0
	11-16	20-40	7-11	5.0-6.0
	16-31	5-15	---	5.5-7.0
	31-60	---	---	5.5-7.0
R30WAA:				
30-Water-----	---	---	---	---
R37MTA:				
37-Alpine dwarf scrub, gravelly colluvial slopes-----	0-2	---	7-9	3.5-5.0
	2-9	---	6-10	4.6-5.4
	9-15	17-58	---	5.5-6.2
	15-26	17-58	---	5.5-6.2
	26-50	6-15	---	5.8-6.0
	50-60	---	---	---
37-Alpine scrub, loamy colluvial slopes-----	0-1	70-155	---	5.5-6.5
	1-3	11-26	6-10	5.1-6.3
	3-6	33-41	6-8	5.1-6.3
	6-18	33-41	6-8	5.1-6.3
	18-41	6-15	4-7	5.1-6.5
	41-60	20-26	---	5.6-6.5
37-Subalpine scrub, gravelly colluvial slopes-----	0-2	---	18-25	3.8-5.1
	2-6	31-60	7-14	3.8-5.8
	6-16	17-58	9-13	4.5-5.8
	16-60	6-26	4-25	4.5-5.8

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R37MTA:</b>				
37-Subalpine woodland, loamy till slopes -----	0-7	---	18-25	3.8-5.1
	7-11	---	6-10	4.0-5.5
	11-17	9-21	4-7	5.4-6.0
	17-34	6-26	4-25	4.8-6.0
	34-60	6-26	4-25	4.8-6.0
<b>R38FPA:</b>				
38-Boreal woodland, gravelly terraces -----	0-7	---	7-9	4.2-5.2
	7-8	---	4-10	4.5-5.0
	8-16	---	4-10	4.5-5.0
	16-17	---	4-10	4.5-5.0
	17-22	0-7	---	5.9-6.3
	22-28	0-7	---	5.8-6.5
	28-60	0-7	---	5.8-6.5
38-Tundra scrub, gravelly terraces -----	0-2	---	7-9	4.2-5.2
	2-4	---	6-20	4.5-5.0
	4-13	0-25	---	5.9-6.3
	13-20	4-25	---	5.8-6.5
	20-60	0-10	---	5.8-6.5
38-Boreal forest, silty flood plains -----	0-2	115-155	---	6.1-6.5
	2-6	15-45	---	5.5-6.5
	6-37	5-15	---	5.6-6.5
	37-55	5-15	---	5.6-6.5
	55-60	5-15	---	5.5-7.0
38-Boreal scrub, gravelly flood plains -----	0-4	2-7	---	6.8-8.0
	4-47	0-3	---	5.6-7.0
	47-60	0-2	---	7.4-7.8
<b>R38FPB:</b>				
38-Boreal grass, loamy flood plains -----	0-4	115-155	---	5.6-6.0
	4-16	6-15	2-7	5.1-6.0
	16-60	6-15	---	6.1-6.5
38-Boreal scrub, silty flood plains -----	0-10	115-155	7-10	4.6-6.5
	10-22	10-20	2-6	5.4-7.3
	22-60	7-15	---	5.7-7.4
<b>R38PLA:</b>				
38-Boreal forest, silty plains -----	0-5	---	18-25	3.8-5.0
	5-7	---	4-10	4.5-5.4
	7-17	5-15	1-6	4.5-6.0
	17-38	9-21	3-7	4.5-6.5
	38-60	5-15	1-6	4.5-6.6
38-Boreal scrub-sedge, loamy terraces -----	0-7	---	7-9	3.4-5.4
	7-14	---	18-25	3.4-5.0
	14-18	15-40	6-20	5.1-6.5
	18-31	6-15	3-7	5.1-6.6
	31-60	---	---	5.1-6.6
38-Boreal woodland, silty plains -----	0-4	---	18-25	3.8-5.0
	4-12	---	4-10	4.5-5.0
	12-24	5-15	3-7	4.5-5.8
	24-60	---	---	4.7-6.0

Table 10. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In.	meq/100 g	meq/100 g	pH
<b>R38PLB:</b>				
38-Tundra scrub, silty plains-----	0-3	---	7-9	3.8-5.0
	3-9	---	5-20	4.5-5.4
	9-24	5-15	3-8	4.5-5.8
	24-60	---	---	4.7-6.0
38-Boreal woodland, loamy eolian slopes -----	0-4	---	18-25	4.0-5.3
	4-8	8-13	6-10	4.4-5.6
	8-11	20-45	6-10	5.2-6.0
	11-19	10-40	4-10	5.2-6.0
	19-60	5-10	3-8	5.4-6.8
38-Tundra dwarf scrub, silty plains-----	0-9	---	7-9	3.8-5.0
	9-12	---	6-10	4.5-5.4
	12-30	5-15	3-7	4.5-5.8
	30-60	---	---	4.5-5.5
<b>R38PLC:</b>				
38-Water -----	---	---	---	---
38-Tundra dwarf scrub, organic plains-----	0-6	---	7-9	3.4-4.5
	6-31	---	18-25	3.4-5.0
	31-60	---	---	4.0-5.5
38-Tundra sedge, organic depressions-----	0-39	---	7-9	3.8-5.2
	39-49	15-35	5-20	5.1-6.2
	49-60	0-10	---	5.0-6.0
<b>R38UPB:</b>				
38-Boreal scrub, loamy eolian slopes -----	0-15	---	7-9	3.8-4.9
	15-28	---	5-15	4.0-5.4
	28-42	5-11	2-7	4.8-5.8
	42-60	---	---	5.0-6.3
38-Tundra tussock-scrub organic eolian slopes -----	0-24	---	7-9	3.8-5.4
	24-31	---	3-7	4.0-5.4
	31-60	---	---	4.0-5.4
38-Boreal scrub, loamy colluvial slopes, Yukon-Kuskokwim Coastal Plain -----	0-7	---	6-25	3.5-5.0
	7-12	---	3-6	4.6-5.4
	12-18	---	2-5	4.5-5.4
	18-28	---	1-3	4.5-5.4
	28-60	---	2-4	5.0-5.4
38-Tundra scrub, silty plains-----	0-3	---	7-9	3.8-5.0
	3-9	---	5-20	4.5-5.4
	9-24	5-15	3-8	4.5-5.8
	24-60	---	---	4.7-6.0
<b>R38WAA:</b>				
38-Water -----	---	---	---	---

**Table 11. Water Features**

(See text for definitions of terms used in this table. Ponding depth is the estimated depth of water on the surface. Soil moisture and temperature status depth is the upper and lower depth below the soil surface. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
29DP03: 29-Noonku family, ponded-----	D	Apr	Occasional	Brief	Frequent	Long	4-0	0-4	Moist	34		
								4-14	Moist	32		
								14-47	Wet	32		
		May	Occasional	Brief	Frequent	Long	4-0	4-0	0-14	Moist	34	
									14-18	Wet	34	
									18-39	Wet	32	
		Jun	Occasional	Brief	Frequent	Long	4-0	4-0	39-60	Wet	34	
									0-14	Moist	34	
									14-26	Wet	34	
		Jul-Aug	Occasional	Brief	Frequent	Long	4-0	4-0	26-31	Wet	32	
									31-60	Wet	34	
									0-7	Moist	34	
		Sep	Occasional	Brief	Frequent	Long	4-0	4-0	7-60	Wet	34	
									0-14	Moist	34	
									14-60	Wet	34	
29FP01: 29-Fubar family, frequent flooding-----	B	Apr	Frequent	Brief	None	---	---	0-4	Moist	34		
								4-47	Moist	32		
								47-60	Wet	34		
		May	Frequent	Brief	None	---	---	---	0-18	Moist	34	
									18-39	Moist	32	
									39-47	Moist	34	
		Jun	Frequent	Brief	None	---	---	---	47-60	Wet	34	
									0-26	Moist	34	
									26-31	Moist	32	
		Jul-Sep	Frequent	Brief	None	---	---	---	31-47	Moist	34	
									47-60	Wet	34	
									0-47	Moist	34	
		29-Noonku family, frequent flooding-----	D	Apr	Frequent	Brief	Occasional	Brief	4-0	47-60	Wet	34
										0-4	Moist	34
										4-14	Moist	32
May	Frequent			Brief	Occasional	Brief	4-0	4-0	14-47	Wet	32	
									47-60	Wet	34	
									0-14	Moist	34	
Jun	Frequent			Brief	Occasional	Brief	4-0	4-0	14-18	Wet	34	
									18-39	Wet	32	
									39-60	Wet	34	
Jul-Aug	Frequent			Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34	
									14-26	Wet	34	
									26-31	Wet	32	
Sep	Frequent			Brief	Occasional	Brief	4-0	4-0	31-60	Wet	34	
									0-7	Moist	34	
									7-60	Wet	34	
								0-14	Moist	34		
								14-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
29FP02: 29-Salchaket family-----	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Moist	32
								39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	0-26	Moist	34
								26-31	Moist	32
								31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	47-60	Wet	34
								0-47	Moist	34
								47-60	Wet	34
29FP03: 29-Chichantna family-----	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	None	---	Frequent	Long	8-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34
30DP01: 30-Holitnafamily -----	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	None	---	Frequent	Long	8-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34
30DP03: 30-Oskawalikfamily -----	D	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
								0-12	Moist	34
								12-18	Wet	34
		May	Occasional	Brief	None	---	---	18-39	Wet	32
								39-60	Wet	34
								0-12	Moist	34
								12-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Jun	Occasional	Brief	None	---	---	0-12	Moist	34
								12-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
								0-12	Moist	34
								12-60	Wet	34
Jul-Aug Sep	Occasional	Brief	None	---	---	0-14	Moist	34		
						14-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
30ES01: 30-Waterfall family -----	A	Apr	None	---	None	---	---	0- 4 4-47 47-60	Dry to moist Dry to moist Dry to moist	34 32 34
		May	None	---	None	---	---	0-18 18-39 39-60	Dry to moist Dry to moist Dry to moist	34 32 34
		Jun	None	---	None	---	---	0-26 26-31 31-60	Dry to moist Dry to moist Dry to moist	34 32 34
		Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34
30-Sleetmute family -----	B	Apr	None	---	None	---	---	0- 4 4-47 47-60	Dry to moist Dry to moist Dry to moist	34 32 34
		May	None	---	None	---	---	0-18 18-39 39-60	Dry to moist Dry to moist Dry to moist	34 32 34
		Jun	None	---	None	---	---	0-26 26-31 31-60	Dry to moist Dry to moist Dry to moist	34 32 34
		Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34
30FP01: 30-Takotna family -----	B	Apr	Occasional	Brief	None	---	---	0- 4 4-47 47-60	Moist Moist Wet	34 32 34
		May	Occasional	Brief	None	---	---	0-18 18-39 39-47 47-60	Moist Moist Moist Wet	34 32 34 34
		Jun	Occasional	Brief	None	---	---	0-26 26-31 31-47 47-60	Moist Moist Moist Wet	34 32 34 34
		Jul-Sep	Occasional	Brief	None	---	---	0-47 47-60	Moist Wet	34 34
30-Itulilikfamily -----	D	Apr	Occasional	Brief	None	---	---	0- 4 4-14 14-47 47-60	Moist Moist Wet Wet	34 32 32 34
		May	Occasional	Brief	None	---	---	0-12 12-18 18-39 39-60	Moist Wet Wet Wet	34 34 32 34
		Jun	Occasional	Brief	None	---	---	0-12 12-26 26-31 31-60	Moist Wet Wet Wet	34 34 32 34
		Jul-Aug	Occasional	Brief	None	---	---	0-12 12-60	Moist Wet	34 34
		Sep	Occasional	Brief	None	---	---	0-14 14-60	Moist Wet	34 34

Table 11. Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
30FP02: 30-Takotna family -----	B	Apr	Occasional	Brief	None	---	---	In.	0-4	Moist	34	
									4-47	Moist	32	
									47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	---	0-18	Moist	34
										18-39	Moist	32
										39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	---	0-26	Moist	34
										26-31	Moist	32
										31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	---	0-47	Moist	34
										47-60	Wet	34
										47-60	Wet	34
30FP03: 30-Takotna family -----	B	Apr	Occasional	Brief	None	---	---	---	0-4	Moist	34	
									4-47	Moist	32	
									47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	---	0-18	Moist	34
										18-39	Moist	32
										39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	---	0-26	Moist	34
										26-31	Moist	32
										31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	---	0-47	Moist	34
										47-60	Wet	34
										47-60	Wet	34
30-Gerstle family -----	B	Apr	Occasional	Very brief	None	---	---	---	0-4	Dry to moist	34	
									4-26	Dry to moist	32	
									26-47	Wet	32	
		May	Occasional	Very brief	None	---	---	---	---	0-18	Dry to moist	34
										18-26	Dry to moist	32
										26-39	Wet	32
		Jun	Occasional	Very brief	None	---	---	---	---	0-26	Dry to moist	34
										26-31	Wet	32
										31-60	Wet	34
		Jul-Sep	Occasional	Very brief	None	---	---	---	---	0-26	Dry to moist	34
										26-60	Wet	34
										26-60	Wet	34
30HI02: 30-Uknavikfamily -----	D	Apr	Occasional	Brief	None	---	---	---	0-4	Moist	34	
									4-14	Moist	32	
									14-47	Wet	32	
		May	Occasional	Brief	None	---	---	---	---	0-12	Moist	34
										12-18	Wet	34
										18-39	Wet	32
		Jun	Occasional	Brief	None	---	---	---	---	0-12	Moist	34
										12-26	Wet	34
										26-31	Wet	32
		Jul-Aug	Occasional	Brief	None	---	---	---	---	0-12	Moist	34
										12-60	Wet	34
										12-60	Wet	34
Sep	Occasional	Brief	None	---	---	---	---	0-14	Moist	34		
								14-60	Wet	34		
								14-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
30HI02: 30-Goldstream family -----	C	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
									6-60	Wet	32
		Jun	None	---	None	---	---	0-8	Moist	34	
									8-12	Moist	32
									12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34	
									12-14	Wet	34
									14-60	Wet	32
		Aug-Sep	None	---	None	---	---	0-12	Moist	34	
							12-22	Wet	34		
							22-60	Wet	32		
30-Holitna family -----	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
								4-47	Wet	32	
									47-60	Wet	34
		May	None	---	Frequent	Long	8-0	0-18	Wet	34	
									18-39	Wet	32
									39-60	Wet	34
		Jun	None	---	Frequent	Long	8-0	0-26	Wet	34	
							26-31	Wet	32		
							31-60	Wet	34		
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34			
30KA02: 30-Kaviriuq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
									47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34	
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34	
							26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34			
30KA08: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
									47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34	
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34	
							26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34			
30-Kaviriuq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
									47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34	
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34	
							26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34			

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
30MA01: 30-Maquulluq -----	A	Apr	None	---	None	---	---	In.	In.	F		
								0-4	Dry to moist	34		
								4-47	Dry to moist	32		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34
30NU02: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34
30NU03: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34
30NU04: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34
30NU05: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
30NU06: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
								26-31	Dry to moist	32
								31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34
30NU07: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
								26-31	Dry to moist	32
								31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34
30-Sleetmute family, hillslopes-----	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
								4-39	Dry to moist	32
								39-47	Wet	32
								47-60	Wet	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Wet	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
								26-31	Dry to moist	32
								31-39	Dry to moist	34
								39-60	Wet	34
		Jul-Sep	None	---	None	---	---	0-39	Dry to moist	34
								39-60	Wet	34
30NU08: 30-Nunaniq -----	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
								26-31	Dry to moist	32
								31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status					
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature			
30NU08: 30-Sleetmute family, hillslope -----	B	Apr	None	---	None	---	---	In.	In.		F		
										0-4	Dry to moist	34	
										4-39	Dry to moist	32	
		May	None	---	None	---	None	---	---	---	39-47	Wet	32
											47-60	Wet	34
											0-18	Dry to moist	34
		Jun	None	---	None	---	None	---	---	---	18-39	Dry to moist	32
											39-60	Wet	34
											0-26	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	---	26-31	Dry to moist	32
											31-39	Dry to moist	34
											39-60	Wet	34
30NU12: 30-Nunaniq -----	B	Apr	None	---	None	---	---	---	---	0-4	Dry to moist	34	
										4-47	Dry to moist	32	
										47-60	Dry to moist	34	
		May	None	---	None	---	None	---	---	---	0-18	Dry to moist	34
											18-39	Dry to moist	32
											39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	---	0-26	Dry to moist	34
											26-31	Dry to moist	32
											31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	---	0-60	Dry to moist	34
30-Teggiuq-----	D	Apr	None	---	None	---	---	---	---	0-60	Wet	32	
										0-6	Wet	34	
		May	None	---	None	---	None	---	---	---	6-60	Wet	32
											0-8	Moist	34
		Jun	None	---	None	---	None	---	---	---	8-12	Moist	32
											12-60	Wet	32
		Jul	None	---	None	---	None	---	---	---	0-12	Moist	34
											12-14	Wet	34
		Aug	None	---	None	---	None	---	---	---	14-60	Wet	32
											0-12	Moist	34
		Sep	None	---	None	---	None	---	---	---	12-20	Wet	34
											20-60	Wet	32
									0-12	Moist	34		
									12-26	Wet	34		
									26-60	Wet	32		
30-Kaviriuq-----	B	Apr	None	---	None	---	---	---	---	0-4	Dry to moist	34	
										4-47	Dry to moist	32	
										47-60	Dry to moist	34	
		May	None	---	None	---	None	---	---	---	0-18	Dry to moist	34
											18-39	Dry to moist	32
											39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	---	0-26	Dry to moist	34
											26-31	Dry to moist	32
											31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	None	---	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
30OT01: 30-Aleknagik family-----	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34
30-Bonasilafamily-----	B	Apr	Occasional	Very brief	None	---	---	0-4	Dry to moist	34	
								4-26	Dry to moist	32	
								26-47	Wet	32	
		May	Occasional	Very brief	None	---	---	---	0-18	Dry to moist	34
									18-26	Dry to moist	32
									26-39	Wet	32
		Jun	Occasional	Very brief	None	---	---	---	0-26	Dry to moist	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	Occasional	Very brief	None	---	---	---	0-26	Dry to moist	34
									26-60	Wet	34
30OT02: 30-Uknavikfamily-----	D	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Occasional	Brief	None	---	---	---	0-12	Moist	34
									12-18	Wet	34
									18-39	Wet	32
		Jun	Occasional	Brief	None	---	---	---	0-12	Moist	34
									12-26	Wet	34
									26-31	Wet	32
		Jul-Aug	Occasional	Brief	None	---	---	---	0-12	Moist	34
									12-60	Wet	34
									31-60	Wet	34
Sep	Occasional	Brief	None	---	---	---	0-14	Moist	34		
							14-60	Wet	34		
30-Noonku family-----	D	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Occasional	Brief	None	---	---	---	0-1	Moist	34
									1-18	Wet	34
									18-39	Wet	32
		Jun	Occasional	Brief	None	---	---	---	0-1	Moist	34
									1-26	Wet	34
									26-31	Wet	32
		Jul-Sep	Occasional	Brief	None	---	---	---	0-1	Moist	34
									1-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
30SL01: 30-Sleetmute -----	A	Apr	None	---	None	---	---	In.	In.	F		
								0-4	Dry to moist	34		
								4-47	Dry to moist	32		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
26-31	Dry to moist									32		
Jul-Sep	None	---	None	---	None	---	---	31-60	Dry to moist	34		
								0-60	Dry to moist	34		
30TE01: 30-Liscum family -----	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34		
								4-47	Wet	32		
								47-60	Wet	34		
		May	None	---	Frequent	Long	8-0	8-0	0-18	Wet	34	
									18-39	Wet	32	
									39-60	Wet	34	
		Jun	None	---	Frequent	Long	8-0	8-0	0-26	Wet	34	
26-31	Wet								32			
Jul-Sep	None	---	Frequent	Long	8-0	8-0	31-60	Wet	34			
							0-60	Wet	34			
30-Hufman family -----	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34		
								4-47	Wet	32		
								47-60	Wet	34		
		May	None	---	Frequent	Long	8-0	8-0	0-18	Wet	34	
									18-39	Wet	32	
									39-60	Wet	34	
		Jun	None	---	Frequent	Long	8-0	8-0	0-26	Wet	34	
26-31	Wet								32			
Jul-Sep	None	---	Frequent	Long	8-0	8-0	31-60	Wet	34			
							0-60	Wet	34			
30TQ01: 30-Teggiuq-----	D	Apr	None	---	None	---	---	---	0-60	Wet	32	
									0-6	Wet	34	
		May	None	---	None	---	None	---	---	6-60	Wet	32
										0-8	Moist	34
		Jun	None	---	None	---	None	---	---	8-12	Moist	32
										12-60	Wet	32
										0-12	Moist	34
		Jul	None	---	None	---	None	---	---	12-14	Wet	34
										14-60	Wet	32
		Aug	None	---	None	---	None	---	---	0-12	Moist	34
12-20	Wet									34		
20-60	Wet									32		
Sep	None	---	None	---	None	---	---	0-12	Moist	34		
								12-26	Wet	34		
								26-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
30TQ02: 30-Teggiuq-----	D	Apr May	None	---	None	---	---	0-60	Wet	32		
			None	---	None	---	---	0-6	Wet	34		
		Jun	None	---	None	---	---	6-60	Wet	32		
			None	---	None	---	---	0-8	Moist	34		
		Jul	None	---	None	---	---	8-12	Moist	32		
			None	---	None	---	---	12-60	Wet	32		
		Aug	None	---	None	---	---	0-12	Moist	34		
			None	---	None	---	---	12-14	Wet	34		
		Sep	None	---	None	---	---	14-60	Wet	32		
			None	---	None	---	---	0-12	Moist	34		
		30TQ03: 30-Teggiuq-----	D	Apr May	None	---	None	---	---	0-60	Wet	32
					None	---	None	---	---	0-6	Wet	34
Jun	None			---	None	---	---	6-60	Wet	32		
	None			---	None	---	---	0-8	Moist	34		
Jul	None			---	None	---	---	8-12	Moist	32		
	None			---	None	---	---	12-60	Wet	32		
Aug	None			---	None	---	---	0-12	Moist	34		
	None			---	None	---	---	12-14	Wet	34		
Sep	None			---	None	---	---	14-60	Wet	32		
	None			---	None	---	---	0-12	Moist	34		
38DP01: 38-Teggiuq family-----	D			Apr-Jun	Rare	Brief	Occasional	Long	4-0	0-2	Moist	34
										2-10	Wet	34
		Jul	Rare	Brief	Occasional	Long	4-0	10-60	Wet	32		
								0-2	Moist	34		
		Aug	Rare	Brief	Occasional	Long	4-0	2-20	Wet	34		
								20-60	Wet	32		
		Sep	Rare	Brief	Occasional	Long	4-0	0-2	Moist	34		
								2-31	Wet	34		
								31-60	Wet	32		
								0-2	Moist	34		
								2-20	Wet	34		
								20-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
38DP03: 38-Uknavikfamily -----	D	Apr	Occasional	Brief	Occasional	Brief	4-0	In.		F	
								0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34		
							14-60	Wet	34		
38ES01: 38-Uknavikfamily, steep -----	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34		
							14-60	Wet	34		
38FP01: 38-Salchaket family-----	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
								0-18	Moist	34	
		May	Occasional	Brief	None	---	---	---	18-39	Moist	32
									39-47	Moist	34
									47-60	Wet	34
									0-26	Moist	34
		Jun	Occasional	Brief	None	---	---	---	26-31	Moist	32
									31-47	Moist	34
									47-60	Wet	34
									0-47	Moist	34
Jul-Sep	Occasional	Brief	None	---	---	---	47-60	Wet	34		
							47-60	Wet	34		
38-Happy family -----	D	Apr	Occasional	Brief	Occasional	Long	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-60	Wet	32	
								0-14	Moist	34	
		May	Occasional	Brief	Occasional	Long	4-0	4-0	14-60	Wet	32
									0-14	Moist	34
									14-18	Wet	34
									18-60	Wet	32
		Jun	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-22	Wet	34
									22-60	Wet	32
									0-14	Moist	34
Jul-Aug	Occasional	Brief	Occasional	Long	4-0	4-0	14-18	Wet	34		
							18-60	Wet	32		
Sep	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34		
							14-18	Wet	34		
							18-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		
38FP02: 38-Uknavikfamily -----	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34		
						14-60	Wet	34		
38-Karheen family-----	D	Apr	Occasional	Brief	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
								0-18	Wet	34
		May	Occasional	Brief	Frequent	Long	8-0	18-39	Wet	32
								39-60	Wet	34
								0-26	Wet	34
								26-31	Wet	32
		Jun	Occasional	Brief	Frequent	Long	8-0	31-60	Wet	34
								0-60	Wet	34
38FP03: 38-Takotna family, ----- frequent flooding	B	Apr	Frequent	Brief	None	---	---	0- 4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
								0-18	Moist	34
		May	Frequent	Brief	None	---	---	18-39	Moist	32
								39-47	Moist	34
								47-60	Wet	34
								0-26	Moist	34
		Jun	Frequent	Brief	None	---	---	26-31	Moist	32
								31-47	Moist	34
								47-60	Wet	34
								0-47	Moist	34
Jul-Sep	Frequent	Brief	None	---	---	47-60	Wet	34		
38-Noonku family, ----- frequent flooding	D	Apr	Frequent	Brief	Occasional	Brief	4-0	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Frequent	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Frequent	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
Jul-Aug	Frequent	Brief	Occasional	Brief	4-0	0- 7	Moist	34		
						7-60	Wet	34		
						0-14	Moist	34		
						14-60	Wet	34		
Sep	Frequent	Brief	Occasional	Brief	4-0					

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
38TE01: 38-Teggiuq family -----	C	Apr	None	---	None	---	---	In.			F	
			None	---	None	---	---	0-60	Wet	32		
		May	None	---	None	---	---	0-6	Wet	34		
			None	---	None	---	---	6-60	Wet	32		
		Jun	None	---	None	---	---	0-8	Moist	34		
			None	---	None	---	---	8-12	Moist	32		
		Jul	None	---	None	---	---	12-60	Wet	32		
			None	---	None	---	---	0-12	Moist	34		
		Aug	None	---	None	---	---	12-14	Wet	34		
			None	---	None	---	---	14-60	Wet	32		
		Sep	None	---	None	---	---	0-12	Moist	34		
			None	---	None	---	---	12-31	Wet	34		
38TE03: 38-Inmachuk family -----	D	Apr-Jun	Rare	Brief	Occasional	Long	4-0	0-2	Moist	34		
			Rare	Brief	Occasional	Long	4-0	2-10	Wet	34		
		Jul	Rare	Brief	Occasional	Long	4-0	10-60	Wet	32		
			Rare	Brief	Occasional	Long	4-0	0-2	Moist	34		
		Aug	Rare	Brief	Occasional	Long	4-0	2-20	Wet	34		
			Rare	Brief	Occasional	Long	4-0	20-60	Wet	32		
		Sep	Rare	Brief	Occasional	Long	4-0	0-2	Moist	34		
			Rare	Brief	Occasional	Long	4-0	2-31	Wet	34		
		38-Teggiuq family -----	C	Apr	None	---	None	---	---	0-60	Wet	32
					None	---	None	---	---	0-6	Wet	34
				May	None	---	None	---	---	6-60	Wet	32
					None	---	None	---	---	0-8	Moist	34
Jun	None			---	None	---	---	8-12	Moist	32		
	None			---	None	---	---	12-60	Wet	32		
Jul	None			---	None	---	---	0-12	Moist	34		
	None			---	None	---	---	12-14	Wet	34		
Aug	None			---	None	---	---	14-60	Wet	32		
	None			---	None	---	---	0-12	Moist	34		
Sep	None			---	None	---	---	12-31	Wet	34		
	None			---	None	---	---	31-60	Wet	32		
38UL01: 38-Ulesqiirluni -----	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34		
			Occasional	Brief	None	---	---	4-47	Moist	32		
		May	Occasional	Brief	None	---	---	47-60	Wet	34		
			Occasional	Brief	None	---	---	0-18	Moist	34		
		Jun	Occasional	Brief	None	---	---	18-39	Moist	32		
			Occasional	Brief	None	---	---	39-47	Moist	34		
		Jul-Sep	Occasional	Brief	None	---	---	47-60	Wet	34		
			Occasional	Brief	None	---	---	0-26	Moist	34		
		Jul-Sep	Occasional	Brief	None	---	---	26-31	Moist	32		
			Occasional	Brief	None	---	---	31-47	Moist	34		
		Jul-Sep	Occasional	Brief	None	---	---	47-60	Wet	34		
			Occasional	Brief	None	---	---	0-47	Moist	34		
Jul-Sep	Occasional	Brief	None	---	---	47-60	Wet	34				
	Occasional	Brief	None	---	---	47-60	Wet	34				

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status						
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature				
38UL02: 38-Ulesqiirluni-----	B	Apr	Occasional	Brief	None	---	---	In.	In.		F			
0-4										Moist	34			
4-47										Moist	32			
May		Occasional	Brief	None	---	---	---	---	---	---	0-18	Moist	34	
											18-39	Moist	32	
											39-47	Moist	34	
Jun		Occasional	Brief	None	---	---	---	---	---	---	47-60	Wet	34	
											0-26	Moist	34	
											26-31	Moist	32	
Jul-Sep		Occasional	Brief	None	---	---	---	---	---	---	31-47	Moist	34	
											47-60	Wet	34	
											0-47	Moist	34	
38-Uknavikfamily-----	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	0-4	Moist	34			
										4-14	Moist	32		
										14-47	Wet	32		
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	14-18	18-39	39-60	Moist	34	
												0-14	Moist	34
												14-18	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	14-26	26-31	31-60	Wet	34	
												0-14	Moist	34
												14-26	Wet	34
		Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	14-60			Wet	32	
												0-14	Moist	34
												14-60	Wet	34
38UT01: 38-Ulet-----	C	Apr	Frequent	Brief	None	---	---	0-4	4-26	Moist	34			
4-26										Moist	32			
26-47										Wet	32			
May		Frequent	Brief	None	---	---	---	0-18	18-26	26-39	Wet	34		
											0-18	Moist	34	
											18-26	Moist	32	
Jun		Frequent	Brief	None	---	---	---	0-26	26-31	31-60	Wet	34		
											0-26	Moist	34	
											26-31	Wet	32	
Jul-Sep		Frequent	Brief	None	---	---	---	0-26	26-60		Wet	34		
											0-26	Moist	34	
											26-60	Wet	34	
38VL02: 38-Urban land-----		Apr-Jun	Occasional	Brief	None	---	---	---	---	34				
Jul-Sep		Occasional	Brief	None	---	---	---	---	34					

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D29FPA: 29-Boreal forest, loamy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	None	---	---	0-18	Moist	34
								18-26	Wet	34
								26-31	Wet	32
		Jul-Sep	Occasional	Brief	None	---	---	0-47	Moist	34
								47-60	Wet	34
29-Boreal scrub, loamy----- flood plains, frequent flooding	D	Apr	Frequent	Brief	Occasional	Brief	4-0	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Frequent	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
		Jun	Frequent	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
		Jul-Sep	Frequent	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-60	Wet	34
D29FPB: 29-Boreal forest, sandy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Moist	32
								39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	0-26	Moist	34
								26-31	Moist	32
								31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	0-47	Moist	34
								47-60	Wet	34
29-Boreal forest, loamy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Moist	32
								39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	0-26	Moist	34
								26-31	Moist	32
								31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	0-47	Moist	34
								47-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		
D29FPC: 29-Boreal grass, loamy ----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0-4	Wet	34
								4-47	Wet	32
		May	Occasional	Brief	Frequent	Long	4-0	47-60	Wet	34
								0-18	Wet	34
Jun-Jul	Occasional	Brief	Frequent	Long	4-0	18-39	Wet	32		
						39-60	Wet	34		
Aug-Sep	Occasional	Brief	Frequent	Long	4-0	0-26	Wet	34		
						26-31	Wet	32		
29-Boreal scrub, loamy ----- depressions	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
Jul-Aug	Occasional	Brief	Occasional	Brief	4-0	0-7	Moist	34		
						7-60	Wet	34		
Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34		
						14-60	Wet	34		
D29FPE: 29-Boreal scrub, loamy ----- flood plains, frequent flooding	D	Apr	Frequent	Brief	None	---	---	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Frequent	Brief	None	---	---	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Frequent	Brief	None	---	---	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
Jul-Sep	Frequent	Brief	None	---	---	0-14	Moist	34		
						14-60	Wet	34		
29-Boreal forest, loamy ----- flood plains, frequent flooding	B	Apr	Frequent	Brief	None	---	---	0-4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
								0-18	Moist	34
		May	Frequent	Brief	None	---	---	18-39	Moist	32
								39-47	Moist	34
								47-60	Wet	34
								0-26	Moist	34
		Jun	Frequent	Brief	None	---	---	26-31	Moist	32
								31-47	Moist	34
								47-60	Wet	34
								0-47	Moist	34
Jul-Sep	Frequent	Brief	None	---	---	47-60	Wet	34		
						47-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.				
D29FPG: 29-Boreal grass, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4 4-47 47-60	Wet Wet Wet	34 32 34		
		May	None	---	Frequent	Long	8-0	0-18 18-39 39-60	Wet Wet Wet	34 32 34		
		Jun	None	---	Frequent	Long	8-0	0-26 26-31 31-60	Wet Wet Wet	34 32 34		
		Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
29-Boreal scrub, loamy ----- depressions	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4 4-14 14-47 47-60	Moist Moist Wet Wet	34 32 32 34		
		May	Occasional	Brief	Occasional	Brief	4-0	0-14 14-18 18-39 39-60	Moist Wet Wet Wet	34 34 32 34		
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14 14-26 26-31 31-60	Moist Wet Wet Wet	34 34 32 34		
		Jul-Aug	Occasional	Brief	Occasional	Brief	4-0	0-7 7-60	Moist Wet	34 34		
		Sep	Occasional	Brief	Occasional	Brief	4-0	0-14 14-60	Moist Wet	34 34		
		D29TEA: 29-Boreal woodland, loamy --- terraces	B	Apr	None	---	None	---	---	0-4 4-47 47-60	Dry to moist Dry to moist Dry to moist	34 32 34
				May	None	---	None	---	---	0-18 18-39 39-60	Dry to moist Dry to moist Dry to moist	34 32 34
Jun	None			---	None	---	---	0-26 26-31 31-60	Dry to moist Dry to moist Dry to moist	34 32 34		
Jul-Sep	None			---	None	---	---	0-60	Dry to moist	34		
29-Boreal scrub, loamy ----- flood plains, rare flooding	D			Apr	Rare	Brief	Occasional	Brief	4-0	0-4 4-14 14-47 47-60	Moist Moist Wet Wet	34 32 32 34
		May	Rare	Brief	Occasional	Brief	4-0	0-14 14-18 18-39 39-60	Moist Wet Wet Wet	34 34 32 34		
		Jun	Rare	Brief	Occasional	Brief	4-0	0-14 14-26 26-31 31-60	Moist Wet Wet Wet	34 34 32 34		
		Jul-Sep	Rare	Brief	Occasional	Brief	4-0	0-14 14-60	Moist Wet	34 34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D29TEA: 29-Boreal woodland, sandy terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
Jun	None	---	None	---	---	0-26	Dry to moist	34		
						26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	31-60	Dry to moist	34		
						0-60	Dry to moist	34		
D29TEB: 29-Boreal grass, organic flood plains, rare flooding	D	Apr	Rare	Brief	Frequent	Long	4-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Rare	Brief	Frequent	Long	4-0	0-18	Wet	34
								18-39	Wet	32
Jun-Jul	Rare	Brief	Frequent	Long	4-0	39-60	Wet	34		
						0-26	Wet	34		
Aug-Sep	Rare	Brief	Frequent	Long	4-0	26-31	Wet	32		
						31-60	Wet	34		
							0-60	Wet	34	
29-Boreal scrub, loamy depressions	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Occasional	Brief	Occasional	Brief	4-0	47-60	Wet	34
								0-14	Moist	34
Jun	Occasional	Brief	Occasional	Brief	4-0	14-18	Wet	34		
						18-39	Wet	32		
Jul-Aug	Occasional	Brief	Occasional	Brief	4-0	39-60	Wet	34		
						0-14	Moist	34		
Sep	Occasional	Brief	Occasional	Brief	4-0	14-26	Wet	34		
						26-31	Wet	32		
							31-60	Wet	34	
							0-7	Moist	34	
							7-60	Wet	34	
							0-14	Moist	34	
							14-60	Wet	34	
D29TEC: 29-Boreal grass, organic flood plains, rare flooding	D	Apr	Rare	Brief	Frequent	Long	4-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Rare	Brief	Frequent	Long	4-0	0-18	Wet	34
								18-39	Wet	32
Jun-Jul	Rare	Brief	Frequent	Long	4-0	39-60	Wet	34		
						0-26	Wet	34		
Aug-Sep	Rare	Brief	Frequent	Long	4-0	26-31	Wet	32		
						31-60	Wet	34		
							0-60	Wet	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D29TEC: 29-Boreal scrub, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
Jun	None	---	Frequent	Long	8-0	0-26	Wet	34		
						26-31	Wet	32		
31-60	Wet	34								
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
D30FAC: 30-Boreal forest, loamy fans --	D	Apr	Occasional	Brief	None	---	---	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Occasional	Brief	None	---	---	0-12	Moist	34
								12-18	Wet	34
								18-39	Wet	32
		Jun	Occasional	Brief	None	---	---	39-60	Wet	34
								0-12	Moist	34
		Jul-Aug	Occasional	Brief	None	---	---	12-26	Wet	34
								26-31	Wet	32
		Sep	Occasional	Brief	None	---	---	31-60	Wet	34
0-12	Moist							34		
12-60	Wet	34								
0-14	Moist	34								
14-60	Wet	34								
30-Boreal scrub, loamy fans --	D	Apr	Occasional	Brief	None	---	---	0-60	Wet	32
								0-6	Wet	34
		May	Occasional	Brief	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jun	Occasional	Brief	None	---	---	8-60	Wet	32
								0-8	Moist	34
		Jul	Occasional	Brief	None	---	---	8-14	Wet	34
								14-60	Wet	32
Aug-Sep	Occasional	Brief	None	---	---	0-8	Moist	34		
						8-22	Wet	34		
22-60	Wet	32								
30-Boreal forest, loamy----- terraces	B	Apr	None	---	None	---	---	0-4	Dry to moist	34
								4-26	Dry to moist	32
								26-47	Wet	32
		May	None	---	None	---	---	47-60	Wet	34
								0-18	Dry to moist	34
								18-26	Dry to moist	32
		Jun	None	---	None	---	---	26-39	Wet	32
								39-60	Wet	34
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34
								26-31	Wet	32
		31-60	Wet	34						
0-26	Dry to moist	34								
26-60	Wet	34								

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D30FAC: 30-Boreal sedge, loamy ----- depressions, occasional flooding	D	Apr	Occasional	Brief	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Frequent	Long	8-0	0-18	Wet	34
							18-39	Wet	32	
							39-60	Wet	34	
							0-26	Wet	34	
							26-31	Wet	32	
							31-60	Wet	34	
		Jul-Sep	Occasional	Brief	Frequent	Long	8-0	0-60	Wet	34
D30FAD: 30-Boreal scrub, gravelly----- drainages, outwash fan	D	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0- 1	Moist	34
								1-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	None	---	---	0- 1	Moist	34
							1-26	Wet	34	
							26-31	Wet	32	
							31-60	Wet	34	
		Jul-Sep	Occasional	Brief	None	---	---	0- 1	Moist	34
							1-60	Wet	34	
30-Boreal scrub, loamy ----- drainages, outwash fan	C	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	None	---	---	0-14	Moist	34
							14-26	Wet	34	
							26-31	Wet	32	
							31-60	Wet	34	
		Jul-Sep	Occasional	Brief	None	---	---	0-14	Moist	34
							14-60	Wet	34	
D30FPA: 30-Boreal forest, loamy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Moist	32
								39-47	Moist	34
								47-60	Wet	34
		Jun	Occasional	Brief	None	---	---	0-26	Moist	34
						26-31	Moist	32		
						31-47	Moist	34		
		Jul-Sep	Occasional	Brief	None	---	---	47-60	Wet	34
							0-47	Moist	34	
							47-60	Wet	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
D30FPA: 30-Boreal forest, sandy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Moist	32
									31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34
									47-60	Wet	34
									47-60	Wet	34
D30FPD: 30-Boreal sedge, loamy----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
								4-47	Wet	32	
								47-60	Wet	34	
		May	None	---	Frequent	Long	8-0	8-0	0-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun	None	---	Frequent	Long	8-0	8-0	0-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	None	---	Frequent	Long	8-0	8-0	0-60	Wet	34
									0-60	Wet	34
									0-60	Wet	34
30-Boreal forest, loamy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Moist	32
									31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34
									47-60	Wet	34
									47-60	Wet	34
D30FPE: 30-Boreal scrub, gravelly----- flood plains, frequent flooding	A	Apr	Frequent	Long	None	---	---	0-4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
		May	Frequent	Long	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
		Jun	Frequent	Long	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	Frequent	Long	None	---	---	---	0-26	Moist	34
									26-60	Wet	34
									26-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
D30FPE: 30-Boreal scrub, silty flood plains, frequent flooding	D	Apr	Frequent	Brief	None	---	---	In.	In.	F	
								0-4	Moist	34	
								4-14	Moist	32	
		May	Frequent	Brief	None	---	---	---	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
		Jun	Frequent	Brief	None	---	---	---	0-4	Moist	34
									4-26	Wet	34
									26-31	Wet	32
		Jul	Frequent	Brief	None	---	---	---	0-4	Moist	34
									4-60	Wet	34
									31-60	Wet	34
Aug-Sep	Frequent	Brief	None	---	---	---	0-14	Moist	34		
							14-60	Wet	34		
D30FPF: 30-Boreal scrub, silty flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0-4	Moist	34
									4-26	Wet	34
									26-31	Wet	32
		Jul	Occasional	Brief	Occasional	Brief	4-0	4-0	0-4	Moist	34
									4-60	Wet	34
									31-60	Wet	34
Aug-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34		
							14-60	Wet	34		
30-Boreal forest, loamy flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	47-60	Wet	34
									0-26	Moist	34
									26-31	Moist	32
		Jul-Sep	Occasional	Brief	None	---	---	---	31-47	Moist	34
									47-60	Wet	34
									0-47	Moist	34
							47-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
D30FPH: 30-Boreal scrub, loamy ----- flood plains	D	Apr	Occasional	Brief	Occasional	Long	4-0	0- 4	Moist	34		
								4-14	Moist	32		
								14-60	Wet	32		
		May	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34	
									14-60	Wet	32	
									14-18	Wet	34	
		Jun	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34	
									14-18	Wet	34	
									18-60	Wet	32	
		Jul	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34	
									14-22	Wet	34	
									22-60	Wet	32	
		Aug-Sep	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34	
									14-30	Wet	34	
									30-60	Wet	32	
30-Boreal scrub, silty ----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0- 4	Moist	34		
								4-14	Moist	32		
								14-47	Wet	32		
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34	
									14-18	Wet	34	
									18-39	Wet	32	
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0- 4	Moist	34	
									4-26	Wet	34	
									26-31	Wet	32	
		Jul	Occasional	Brief	Occasional	Brief	4-0	4-0	0- 4	Moist	34	
									4-60	Wet	34	
									14-60	Wet	34	
		Aug-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34	
									14-60	Wet	34	
30-Boreal forest, loamy ----- flood plains	B	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34		
								4-47	Moist	32		
								47-60	Wet	34		
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34	
									18-39	Moist	32	
									39-47	Moist	34	
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34	
									26-31	Moist	32	
									31-47	Moist	34	
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34	
									47-60	Wet	34	
		D30HIA: 30-Boreal forest, silty ----- eolian slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
										4-47	Dry to moist	32
										47-60	Dry to moist	34
May	None			---	None	---	---	---	0-18	Dry to moist	34	
									18-39	Dry to moist	32	
									39-60	Dry to moist	34	
Jun	None			---	None	---	---	---	0-26	Dry to moist	34	
									26-31	Dry to moist	32	
									31-60	Dry to moist	34	
Jul-Sep	None			---	None	---	---	---	0-60	Dry to moist	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status										
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature								
							In.	In.		F								
D30HIA: 30-Boreal forest, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34								
								4-47	Dry to moist	32								
								47-60	Dry to moist	34								
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34						
										18-39	Dry to moist	32						
										39-60	Dry to moist	34						
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34						
										26-31	Dry to moist	32						
										31-60	Dry to moist	34						
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34						
		30-Boreal forest,----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34						
										4-47	Dry to moist	32						
47-60	Dry to moist									34								
May	None			---	None	---	None	---	---	0-18	Dry to moist	34						
										18-39	Dry to moist	32						
										39-60	Dry to moist	34						
Jun	None			---	None	---	None	---	---	0-26	Dry to moist	34						
										26-31	Dry to moist	32						
										31-60	Dry to moist	34						
Jul-Sep	None			---	None	---	None	---	---	0-60	Dry to moist	34						
D30HIB: 30-Boreal forest, silty----- eolian slopes	B			Apr	None	---	None	---	---	0- 4	Dry to moist	34						
										4-47	Dry to moist	32						
		47-60	Dry to moist							34								
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34						
										18-39	Dry to moist	32						
										39-60	Dry to moist	34						
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34						
										26-31	Dry to moist	32						
										31-60	Dry to moist	34						
		Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34						
		30-Boreal taiga, loamy----- eolian slopes	D	Apr	None	---	None	---	---	---	0-60	Wet	32					
											May	None	---	None	---	---	---	0- 6
6-60	Wet																	32
0- 8	Moist			34														
Jun	None			---	None	---	None	---	---	8-12	Moist	32						
										12-60	Wet	32						
										0-12	Moist	34						
Jul	None			---	None	---	None	---	---	12-14	Wet	34						
										14-60	Wet	32						
										0-12	Moist	34						
Aug-Sep	None			---	None	---	None	---	---	0-12	Moist	34						
										12-31	Wet	34						
		31-60	Wet							32								
30-Boreal scrub-sedge, loamy eolian slopes	D	Apr-May	None	---	Frequent	Long	6-0	0-12	Wet	34								
								12-60	Wet	32								
		Jun	None	---	Frequent	Long	6-0	0- 6	Dry to moist	34								
								6-18	Wet	34								
		Jul-Aug	None	---	None	---	---	18-60	Wet	32								
								0-12	Dry to moist	34								
		Sep	None	---	None	---	---	12-60	Wet	34								
								0-12	Dry to moist	34								
										12-26	Wet	34						
										26-60	Wet	32						

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status									
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature							
							In.	In.		F							
D30MTA: 30-Boreal forest, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34							
								4-47	Dry to moist	32							
								47-60	Dry to moist	34							
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34					
										18-39	Dry to moist	32					
										39-60	Dry to moist	34					
										0-26	Dry to moist	34					
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32							
								31-60	Dry to moist	34							
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34							
30-Boreal woodland, loamy --- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34							
								4-47	Dry to moist	32							
								47-60	Dry to moist	34							
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34					
										18-39	Dry to moist	32					
										39-60	Dry to moist	34					
										0-26	Dry to moist	34					
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32							
								31-60	Dry to moist	34							
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34							
30-Subalpine scrub, ----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34							
								4-47	Dry to moist	32							
								47-60	Dry to moist	34							
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34					
										18-39	Dry to moist	32					
										39-60	Dry to moist	34					
										0-26	Dry to moist	34					
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32							
								31-60	Dry to moist	34							
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34							
D30MTB: 30-Boreal woodland, loamy --- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34							
								4-47	Dry to moist	32							
								47-60	Dry to moist	34							
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34					
										18-39	Dry to moist	32					
										39-60	Dry to moist	34					
										0-26	Dry to moist	34					
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32							
								31-60	Dry to moist	34							
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34							
30-Boreal taiga, loamy----- eolian slopes	D	Apr	None	---	None	---	---	0-60	Wet	32							
									May	None	---	None	---	---	0-6	Wet	34
															6-60	Wet	32
		Jun	None	---	None	---	None	---	---	0-8	Moist	34					
										8-12	Moist	32					
										12-60	Wet	32					
										0-12	Moist	34					
		Jul	None	---	None	---	None	---	---	12-14	Wet	34					
										14-60	Wet	32					
Aug-Sep	None	---	None	---	None	---	---	0-12	Moist	34							
								12-31	Wet	34							
								31-60	Wet	32							

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
D30MTB: 30-Boreal forest, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
Jun	None	---	None	---	---	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		
D30MTC: 30-Boreal forest,----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
Jun	None	---	None	---	---	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		
30-Boreal woodland, loamy --- colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
Jun	None	---	None	---	---	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		
30-Subalpine scrub, ----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
Jun	None	---	None	---	---	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		
D30MTD: 30-Boreal woodland, ----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
Jun	None	---	None	---	---	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D30MTD: 30-Boreal taiga, loamy colluvial slopes	C	Apr	None	---	None	---	---	0-60	Wet	32
			None	---	None	---	---	0-6	Wet	34
		May	None	---	None	---	---	6-60	Wet	32
			None	---	None	---	---	0-8	Moist	34
		Jun	None	---	None	---	---	8-12	Moist	32
			None	---	None	---	---	12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
			None	---	None	---	---	12-14	Wet	34
		Aug-Sep	None	---	None	---	---	14-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
30-Subalpine scrub, gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
		May	None	---	None	---	---	47-60	Dry to moist	34
			None	---	None	---	---	0-18	Dry to moist	34
		Jun	None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
		Jul-Sep	None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
D30TEA: 30-Boreal woodland, sandy terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
		May	None	---	None	---	---	47-60	Dry to moist	34
			None	---	None	---	---	0-18	Dry to moist	34
		Jun	None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
		Jul-Sep	None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
30-Boreal woodland, loamy terraces	B	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
		May	None	---	None	---	---	47-60	Dry to moist	34
			None	---	None	---	---	0-18	Dry to moist	34
		Jun	None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
		Jul-Sep	None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
30-Boreal woodland, gravelly terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
		May	None	---	None	---	---	47-60	Dry to moist	34
			None	---	None	---	---	0-18	Dry to moist	34
		Jun	None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
		Jul-Sep	None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D30TEB: 30-Boreal scrub, silty----- terraces	C	Apr	None	---	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
Jun	None	---	Frequent	Long	8-0	0-26	Wet	34		
						26-31	Wet	32		
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
30-Boreal sedge, loamy ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
Jun	None	---	Frequent	Long	8-0	0-26	Wet	34		
						26-31	Wet	32		
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
30-Boreal scrub, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
Jun	None	---	Frequent	Long	8-0	0-26	Wet	34		
						26-31	Wet	32		
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
D30TEF: 30-Boreal scrub-sedge,----- loamy terraces	C	Apr-Jun	None	---	Frequent	Long	4-0	0- 2	Moist	34
								2-10	Wet	34
		Jul-Sep	None	---	Frequent	Long	4-0	0- 2	Moist	34
								2-20	Wet	34
20-60	Wet	32								
30-Boreal scrub, loamy ----- terraces	B	Apr-Jun	None	---	Frequent	Long	4-0	0- 2	Moist	34
								2-10	Wet	34
		Jul	None	---	Frequent	Long	4-0	0- 2	Moist	34
								2-30	Wet	34
		30-60	Wet	32						
		Aug	None	---	Frequent	Long	4-0	0- 2	Moist	34
								2-43	Wet	34
43-60	Wet	32								
Sep	None	---	Frequent	Long	4-0	0- 2	Moist	34		
						2-30	Wet	34		
30-60	Wet	32								

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status																																																																										
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature																																																																								
D30TEF: 30-Boreal taiga, loamy----- terraces	C	Apr	None	---	None	---	---	In.	In.	F																																																																								
											May	None	---	None	---	---	0-60	Wet	32																																																															
																				Jun	None	---	None	---	---	0-6	Wet	34																																																						
																													Jul	None	---	None	---	---	6-60	Wet	32																																													
																																						Aug-Sep	None	---	None	---	---	0-8	Moist	34																																				
																																															Apr	None	---	None	---	---	8-12	Moist	32																											
																																																								May	None	---	None	---	---	12-60	Wet	32																		
																																																																	Jun	None	---	None	---	---	0-12	Moist	34									
																																																																										Jul	None	---	None	---	---	12-14	Wet	34
Apr	None	---	None	---	---	0-12	Moist	34																																																																										
									May	None	---	None	---	---	12-29	Wet	34																																																																	
																		Jun	None	---	None	---	---	29-60	Wet	32																																																								
																											Jul	None	---	Frequent	Long	8-0	0-4	Wet	34																																															
																																				Aug-Sep	None	---	Frequent	Long	8-0	4-47	Wet	32																																						
																																													Apr	None	---	Frequent	Long	8-0	47-60	Wet	34																													
																																																						May	None	---	Frequent	Long	8-0	0-18	Wet	34																				
																																																															Jun	None	---	Frequent	Long	8-0	18-39	Wet	32											
																																																																								Jul	None	---	Frequent	Long	8-0	39-60	Wet	34		
																																																																																	Aug-Sep	None
Apr	None	---	Frequent	Long	8-0	26-31	Wet	32																																																																										
									May	None	---	Frequent	Long	8-0	31-60	Wet	34																																																																	
																		Jun	None	---	Frequent	Long	8-0	0-60	Wet	34																																																								
																											Jul	None	---	Frequent	Long	8-0	0-4	Wet	34																																															
																																				Aug-Sep	None	---	Frequent	Long	8-0	4-47	Wet	32																																						
																																													Apr	None	---	Frequent	Long	8-0	47-60	Wet	34																													
																																																						May	None	---	Frequent	Long	8-0	0-18	Wet	34																				
																																																															Jun	None	---	Frequent	Long	8-0	18-39	Wet	32											
																																																																								Jul	None	---	Frequent	Long	8-0	39-60	Wet	34		
																																																																																	Aug-Sep	None
Apr	Occasional	Brief	None	---	---	0-4	Moist	34																																																																										
									May	Occasional	Brief	None	---	---	4-47	Moist	32																																																																	
																		Jun	Occasional	Brief	None	---	---	47-60	Wet	34																																																								
																											Jul	Occasional	Brief	None	---	---	0-18	Moist	34																																															
																																				Aug-Sep	Occasional	Brief	None	---	---	18-39	Moist	32																																						
																																													Apr	Occasional	Brief	None	---	---	39-47	Moist	34																													
																																																						May	Occasional	Brief	None	---	---	47-60	Wet	34																				
																																																															Jun	Occasional	Brief	None	---	---	0-26	Moist	34											
																																																																								Jul	Occasional	Brief	None	---	---	26-31	Moist	32		
																																																																																	Aug-Sep	Occasional
Apr	Occasional	Brief	None	---	---	47-60	Wet	34																																																																										
									May	Occasional	Brief	None	---	---	0-47	Moist	34																																																																	
																		Jun	Occasional	Brief	None	---	---	47-60	Wet	34																																																								
																											Jul	Occasional	Brief	None	---	---	0-47	Moist	34																																															
																																				Aug-Sep	Occasional	Brief	None	---	---	47-60	Wet	34																																						

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
D38FPA: 38-Boreal scrub, silty----- flood plains, moderately wet	D	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
									39-60	Wet	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
									0-26	Moist	34
Jul-Sep	Occasional	Brief	None	---	---	---	0-26	Moist	34		
							26-60	Wet	34		
D38FPB: 38-Boreal forest, sandy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
								0-18	Dry to moist	34	
		May	Occasional	Brief	None	---	---	---	18-39	Dry to moist	32
									39-60	Dry to moist	34
									0-26	Dry to moist	34
									26-31	Dry to moist	32
		Jun	Occasional	Brief	None	---	---	---	31-60	Dry to moist	34
									0-60	Dry to moist	34
Jul-Sep	Occasional	Brief	None	---	---	---	0-60	Dry to moist	34		
38-Boreal scrub, silty----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0- 4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34		
							14-60	Wet	34		
38-Boreal scrub, sandy----- flood plains	C	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
									39-60	Wet	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
									0-26	Moist	34
Jul-Sep	Occasional	Brief	None	---	---	---	0-26	Moist	34		
							26-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D38FPC: 38-Boreal scrub, silty----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
		Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-60	Wet	34
38-Boreal sedge, loamy ----- depressions, occasional flooding	D	Apr	Occasional	Brief	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	Frequent	Long	8-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Jul-Sep	Occasional	Brief	Frequent	Long	8-0	0-60	Wet	34
38-Boreal grass, organic ----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Frequent	Long	4-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun-Jul	Occasional	Brief	Frequent	Long	4-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Aug-Sep	Occasional	Brief	Frequent	Long	4-0	0-60	Wet	34
D38FPD: 38-Boreal scrub, silty----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
		Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
D38FPD: 38-Boreal forest, silty----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Moist	32
									31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34
									47-60	Wet	34
D38FPE: 38-Boreal scrub, gravelly----- flood plains, frequent flooding	A	Apr	Frequent	Brief	None	---	---	0-4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
		May	Frequent	Brief	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
		Jun	Frequent	Brief	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	Frequent	Brief	None	---	---	---	0-26	Moist	34
									26-60	Wet	34
38-Boreal scrub, silty----- flood plains, frequent flooding	D	Apr	Frequent	Brief	Occasional	Brief	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Frequent	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
		Jun	Frequent	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-26	Wet	34
									26-31	Wet	32
		Jul-Sep	Frequent	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-60	Wet	34
D38FPF: 38-Boreal scrub, loamy----- flood plains, Yukon Delta	D	Apr	Occasional	Brief	Occasional	Long	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-60	Wet	32	
		May	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-60	Wet	32
		Jun	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-60	Wet	32
		Jul-Aug	Occasional	Brief	Occasional	Long	4-0	4-0	0-30	Moist	34
									30-60	Wet	32
Sep	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34		
							14-18	Wet	34		
							18-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status								
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature						
							In.	In.		F						
D38FPF: 38-Boreal forest, silty----- flood plains, moderately wet	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34						
								4-47	Moist	32						
								47-60	Wet	34						
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34					
									18-39	Moist	32					
									39-47	Moist	34					
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34					
									26-31	Moist	32					
									31-47	Moist	34					
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34					
									47-60	Wet	34					
38-Boreal taiga, organic----- terraces, rare flooding	D	Apr-Jun	Rare	Brief	Frequent	Long	4-0	0-2	Moist	34						
								2-10	Wet	34						
								10-60	Wet	32						
		Jul	Rare	Brief	Frequent	Long	4-0	4-0	0-2	Moist	34					
									2-20	Wet	34					
									20-60	Wet	32					
		Aug	Rare	Brief	Frequent	Long	4-0	4-0	0-2	Moist	34					
									2-32	Wet	34					
									32-60	Wet	32					
		Sep	Rare	Brief	Frequent	Long	4-0	4-0	0-2	Moist	34					
									2-20	Wet	34					
									20-60	Wet	32					
D38HIB: 38-Boreal scrub, loamy----- eolian slopes, frozen, wet	C	Apr	None	---	None	---	---	0-60	Wet	32						
								May	None	---	None	---	---	0-6	Wet	34
														6-60	Wet	32
								Jun	None	---	None	---	---	0-8	Moist	34
														8-12	Moist	32
								Jul	None	---	None	---	---	0-12	Moist	34
														12-60	Wet	32
								Aug	None	---	None	---	---	0-12	Moist	34
														12-14	Wet	34
								Sep	None	---	None	---	---	14-60	Wet	32
														0-12	Moist	34
								38-Boreal woodland, loamy --- eolian slopes, Yukon- Kuskokwim Coastal Plain	B	Apr	None	---	None	---	---	0-4
4-47	Dry to moist	32														
47-60	Dry to moist	34														
May	None	---	None	---	---	---	0-18			Dry to moist	34					
							18-39			Dry to moist	32					
							39-60			Dry to moist	34					
Jun	None	---	None	---	---	---	0-26			Dry to moist	34					
							26-31			Dry to moist	32					
							31-60			Dry to moist	34					
Jul-Sep	None	---	None	---	---	---	0-60			Dry to moist	34					

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.	F		
D38HIB: 38-Boreal scrub-sedge,----- loamy terraces, frozen	C	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
		Jun	None	---	None	---	None	---	6-60	Wet	32
									0-8	Moist	34
									8-12	Moist	32
		Jul	None	---	None	---	None	---	12-60	Wet	32
									0-12	Moist	34
									12-14	Wet	34
		Aug	None	---	None	---	None	---	14-60	Wet	32
									0-12	Moist	34
									12-31	Wet	34
		Sep	None	---	None	---	None	---	31-60	Wet	32
0-12	Moist								34		
12-26	Wet								34		
							26-60	Wet	32		
D38TEB: 38-Boreal sedge, loamy ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
		May	None	---	Frequent	Long	8-0	4-47	Wet	32	
								47-60	Wet	34	
								18-39	Wet	32	
		Jun	None	---	Frequent	Long	8-0	39-60	Wet	34	
								0-26	Wet	34	
		Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34	
38-Boreal sedge, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
		May	None	---	Frequent	Long	8-0	4-47	Wet	32	
								47-60	Wet	34	
								0-18	Wet	34	
		Jun	None	---	Frequent	Long	8-0	18-39	Wet	32	
								39-60	Wet	34	
		Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34	
38-Boreal forest, silty----- flood plains, rare flooding	B	Apr	Rare	Brief	None	---	---	0-4	Moist	34	
		May	Rare	Brief	None	---	---	4-47	Moist	32	
								47-60	Wet	34	
								0-18	Moist	34	
		Jun	Rare	Brief	None	---	---	---	18-39	Moist	32
									39-47	Moist	34
		Jul-Sep	Rare	Brief	None	---	---	---	47-60	Wet	34
									0-26	Moist	34
									26-31	Moist	32
									31-47	Moist	34
							47-60	Wet	34		
							0-47	Moist	34		
							47-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
D38TEB: 38-Boreal scrub-sedge,----- loamy terraces	C	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
		Jun	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jul	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
		Aug	None	---	None	---	---	0-12	Moist	34
12-14	Wet							34		
Sep	None	---	None	---	---	14-60	Wet	32		
D38TEC: 38-Boreal taiga, organic----- terraces	D	Apr-Jun	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-10	Wet	34
								10-60	Wet	32
		Jul	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-20	Wet	34
								20-60	Wet	32
		Aug	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-32	Wet	34
		Sep	None	---	Frequent	Long	4-0	32-60	Wet	32
								0-2	Moist	34
								2-20	Wet	34
38-Boreal scrub-sedge,----- loamy terraces	C	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
		Jun	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jul	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
		Aug	None	---	None	---	---	0-12	Moist	34
12-14	Wet							34		
Sep	None	---	None	---	---	14-60	Wet	32		
38-Boreal dwarf scrub,----- silty terraces	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
		Jun	None	---	Frequent	Long	8-0	39-60	Wet	34
								0-26	Wet	34
Jul-Sep	None	---	Frequent	Long	8-0	26-31	Wet	32		
						31-60	Wet	34		
							0-60	Wet	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
D38TED: 38-Boreal scrub-sedge,----- loamy terraces	C	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
		Jun	None	---	None	---	---	6-60	Wet	32	
								0-8	Moist	34	
								8-12	Moist	32	
		Jul	None	---	None	---	---	12-60	Wet	32	
								0-12	Moist	34	
								12-14	Wet	34	
		Aug	None	---	None	---	---	14-60	Wet	32	
0-12	Moist							34			
12-31	Wet							34			
Sep	None	---	None	---	---	31-60	Wet	32			
						0-12	Moist	34			
						12-26	Wet	34			
							26-60	Wet	32		
38-Boreal scrub, loamy----- terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34	
		May	None	---	None	---	4-47	Dry to moist	32		
							47-60	Dry to moist	34		
							0-18	Dry to moist	34		
		Jun	None	---	None	---	---	18-39	Dry to moist	32	
								39-60	Dry to moist	34	
								0-26	Dry to moist	34	
Jul-Sep	None	---	None	---	---	26-31	Dry to moist	32			
						31-60	Dry to moist	34			
							0-60	Dry to moist	34		
38-Boreal scrub-sedge,----- organic terraces	D	Apr-Jun	None	---	Frequent	Long	4-0	0-2	Moist	34	
		Jul	None	---	Frequent	Long	4-0	2-10	Wet	34	
								10-60	Wet	32	
								0-2	Moist	34	
		Aug	None	---	Frequent	Long	4-0	2-20	Wet	34	
								20-60	Wet	32	
								0-2	Moist	34	
		Sep	None	---	Frequent	Long	4-0	2-31	Wet	34	
31-60	Wet							32			
							0-2	Moist	34		
							2-20	Wet	34		
							20-60	Wet	32		
R29FPC: 29-Boreal forest,----- gravelly flood plains	A	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
		May	Occasional	Brief	None	---	---	4-47	Moist	32	
								47-60	Wet	34	
								0-18	Moist	34	
		Jun	Occasional	Brief	None	---	---	---	18-39	Moist	32
									39-47	Moist	34
									47-60	Wet	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Moist	32
31-47	Moist								34		
							47-60	Wet	34		
							0-47	Moist	34		
							47-60	Wet	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R29FPC: 29-Boreal forest, loamy----- flood plains	B	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34
								4-47	Moist	32
								47-60	Wet	34
		May	Occasional	Brief	None	---	---	0-18	Moist	34
								18-39	Moist	32
								39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	0-26	Moist	34
								26-31	Moist	32
								31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	0-47	Moist	34
								47-60	Wet	34
29-Boreal grass, organic----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0- 4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Frequent	Long	4-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun-Jul	Occasional	Brief	Frequent	Long	4-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Aug-Sep	Occasional	Brief	Frequent	Long	4-0	0-60	Wet	34
R29FPD: 29-Boreal scrub, loamy----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
		Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-60	Wet	34
29-Boreal grass, loamy----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0- 4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Frequent	Long	4-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun-Jul	Occasional	Brief	Frequent	Long	4-0	0-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
		Aug-Sep	Occasional	Brief	Frequent	Long	4-0	0-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R29FPE: 29-Boreal scrub, organic ----- flood plains	D	Apr	Occasional	Brief	Occasional	Long	4-0	0- 4	Moist	34	
								4-14	Moist	32	
								14-60	Wet	32	
		May	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-60	Wet	32
									14-60	Wet	32
		Jun	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-60	Wet	32
		Jul	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34
									14-22	Wet	34
									22-60	Wet	32
Aug-Sep	Occasional	Brief	Occasional	Long	4-0	4-0	0-14	Moist	34		
							14-30	Wet	34		
							30-60	Wet	32		
29-Boreal grass, organic ----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0- 4	Wet	34	
								4-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	Frequent	Long	4-0	4-0	0-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun-Jul	Occasional	Brief	Frequent	Long	4-0	4-0	0-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
		Aug-Sep	Occasional	Brief	Frequent	Long	4-0	4-0	0-60	Wet	34
R29FPP: 29-Boreal forest,----- gravelly flood plains	A	Apr	Occasional	Brief	None	---	---	0- 4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	47-60	Wet	34
									0-26	Moist	34
									26-31	Moist	32
		Jul-Sep	Occasional	Brief	None	---	---	---	31-47	Moist	34
									47-60	Wet	34
									0-47	Moist	34
							47-60	Wet	34		
29-Boreal woodland, sandy --- terraces	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R29FPF: 29-Boreal scrub, loamy ----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0- 4	Moist	34
								4-14	Moist	32
								14-47	Wet	32
								47-60	Wet	34
		May	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34
								14-26	Wet	34
								26-31	Wet	32
								31-60	Wet	34
Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	0-14	Moist	34		
						14-60	Wet	34		
R29PLA: 29-Boreal grass, loamy ----- depressions	B	Apr	None	---	Frequent	Long	8-0	0- 4	Wet	34
								4-47	Wet	32
								47-60	Wet	34
								18-39	Wet	32
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
								39-60	Wet	34
								0-26	Wet	34
		Jun	None	---	Frequent	Long	8-0	26-31	Wet	32
								31-60	Wet	34
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
29-Boreal woodland, silty ----- terraces	B	Apr	Occasional	Very brief	None	---	---	0- 4	Dry to moist	34
								4-26	Dry to moist	32
								26-47	Wet	32
								47-60	Wet	34
		May	Occasional	Very brief	None	---	---	0-18	Dry to moist	34
								18-26	Dry to moist	32
								26-39	Wet	32
								39-60	Wet	34
		Jun	Occasional	Very brief	None	---	---	0-26	Dry to moist	34
								26-31	Wet	32
								31-60	Wet	34
								0-26	Dry to moist	34
Jul-Sep	Occasional	Very brief	None	---	---	26-60	Wet	34		
29-Boreal forest, loamy ----- till plains	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34
								4-39	Dry to moist	32
								39-47	Wet	32
								47-60	Wet	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Wet	34
								0-26	Dry to moist	34
		Jun	None	---	None	---	---	26-31	Dry to moist	32
								31-39	Dry to moist	34
								39-60	Wet	34
								0-39	Dry to moist	34
Jul-Sep	None	---	None	---	---	39-60	Wet	34		



Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R29UPA: 29-Boreal taiga, silty----- plains	D	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
								6-60	Wet	32
		Jun	None	---	None	---	---	0-8	Moist	34
								8-12	Moist	32
								12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
								12-14	Wet	34
								14-60	Wet	32
						0-12	Moist	34		
						12-20	Wet	34		
						20-60	Wet	32		
						0-12	Moist	34		
						12-18	Wet	34		
						18-60	Wet	32		
R29UPB: 29-Boreal forest, silty----- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
						26-31	Dry to moist	32		
						31-60	Dry to moist	34		
		Jul-Sep	None	---	None	---	0-60	Dry to moist	34	
29-Boreal taiga, silty----- eolian slopes	D	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
								6-60	Wet	32
		Jun	None	---	None	---	---	0-8	Moist	34
								8-12	Moist	32
								12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
								12-14	Wet	34
								14-60	Wet	32
						0-12	Moist	34		
						12-20	Wet	34		
						20-60	Wet	32		
						0-12	Moist	34		
						12-18	Wet	34		
						18-60	Wet	32		
29-Subalpine woodland,----- silty colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
								4-47	Dry to moist	32
								47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
								39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
						26-31	Dry to moist	32		
						31-60	Dry to moist	34		
		Jul-Sep	None	---	None	---	0-60	Dry to moist	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
R29UPC: 29-Boreal woodland, sandy terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
										0-26	Dry to moist	34
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32		
								31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34		
29-Boreal forest, sandy terraces	A	Apr	None	---	None	---	---	0-4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
										0-26	Dry to moist	34
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32		
								31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34		
R30FPA: 30-Boreal forest, gravelly flood plains	A	Apr	Occasional	Brief	None	---	---	0-4	Moist	34		
								4-47	Moist	32		
								47-60	Wet	34		
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34	
									18-39	Moist	32	
									39-47	Moist	34	
									47-60	Wet	34	
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34	
									26-31	Moist	32	
		Jul-Sep	Occasional	Brief	None	---	---	---	31-47	Moist	34	
									47-60	Wet	34	
									0-47	Moist	34	
									47-60	Wet	34	
30-Boreal forest, loamy flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34		
								4-47	Moist	32		
								47-60	Wet	34		
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34	
									18-39	Moist	32	
									39-47	Moist	34	
									47-60	Wet	34	
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34	
									26-31	Moist	32	
		Jul-Sep	Occasional	Brief	None	---	---	---	31-47	Moist	34	
									47-60	Wet	34	
									0-47	Moist	34	
									47-60	Wet	34	

Table 11. Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R30FPA: 30-Boreal scrub, gravelly----- flood plains	A	Apr	Occasional	Long	None	---	---	0-4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
		May	Occasional	Long	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
		Jun	Occasional	Long	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	Occasional	Long	None	---	---	---	0-26	Moist	34
									26-60	Wet	34
30-Boreal scrub, silty----- terraces	C	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
								4-47	Wet	32	
								47-60	Wet	34	
		May	None	---	Frequent	Long	8-0	8-0	0-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun	None	---	Frequent	Long	8-0	8-0	0-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	None	---	Frequent	Long	8-0	8-0	0-60	Wet	34
R30HIA: 30-Boreal forest, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34
30-Boreal taiga, loamy----- eolian slopes	D	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	---	0-6	Wet	34
									6-60	Wet	32
		Jun	None	---	None	---	---	---	0-8	Moist	34
									8-12	Moist	32
									12-60	Wet	32
		Jul	None	---	None	---	---	---	0-12	Moist	34
									12-14	Wet	34
									14-60	Wet	32
Aug-Sep	None	---	None	---	---	---	0-12	Moist	34		
							12-31	Wet	34		
							31-60	Wet	32		



Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R30MTA: 30-Boreal forest, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34
30-Boreal woodland, ----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34
R30MTB: 30-Boreal taiga, loamy----- colluvial slopes	C	Apr	None	---	None	---	---	0-60	Wet	32	
								0- 6	Wet	34	
		May	None	---	None	---	---	---	6-60	Wet	32
									0- 8	Moist	34
		Jun	None	---	None	---	---	---	8-12	Moist	32
									12-60	Wet	32
		Jul	None	---	None	---	---	---	0-12	Moist	34
									12-14	Wet	34
		Aug-Sep	None	---	None	---	---	---	14-60	Wet	32
									0-12	Moist	34
									12-22	Wet	34
									22-60	Wet	32
30-Boreal forest, ----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34
30-Boreal scrub, loamy----- eolian slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
		Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R30MTB: 30-Subalpine forest, ----- gravelly residual slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
									0-26	Dry to moist	34
Jun	None	---	None	---	None	---	26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
30-Subalpine scrub, loamy ---- colluvial slopes	C	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-39	Dry to moist	32	
								39-47	Wet	32	
		May	None	---	None	---	None	---	47-60	Wet	34
									0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Wet	34
Jun	None	---	None	---	None	---	0-26	Dry to moist	34		
							26-31	Dry to moist	32		
Jul-Sep	None	---	None	---	None	---	31-39	Dry to moist	34		
							39-60	Wet	34		
0-39	Dry to moist	34									
39-60	Wet	34									
R30MTC: 30-Boreal forest, ----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
									0-26	Dry to moist	34
Jun	None	---	None	---	None	---	26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
30-Boreal scrub, silty ----- colluvial slopes	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34	
								4-47	Wet	32	
								47-60	Wet	34	
		May	None	---	Frequent	Long	8-0	8-0	0-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
									0-26	Wet	34
Jun	None	---	Frequent	Long	8-0	8-0	26-31	Wet	32		
							31-60	Wet	34		
Jul-Sep	None	---	Frequent	Long	8-0	8-0	0-60	Wet	34		
30-Subalpine woodland, ----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
									0-26	Dry to moist	34
Jun	None	---	None	---	None	---	26-31	Dry to moist	32		
							31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R30MTC: 30-Boreal taiga, loamy colluvial slopes	C	Apr May	None	---	None	---	---	0-60	Wet	32
			None	---	None	---	---	0-6	Wet	34
		Jun	None	---	None	---	---	6-60	Wet	32
			None	---	None	---	---	0-8	Moist	34
			None	---	None	---	---	8-12	Moist	32
			None	---	None	---	---	12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
			None	---	None	---	---	12-14	Wet	34
		Aug-Sep	None	---	None	---	---	14-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
R30MTD: 30-Alpine herbaceous, gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
			None	---	None	---	---	47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
			None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
			None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
30-Subalpine woodland, gravelly colluvial slopes	B	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
			None	---	None	---	---	47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
			None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
			None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
30-Alpine dwarf scrub, gravelly till slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
			None	---	None	---	---	47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
			None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
			None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34
R30MTE: 30-Alpine herbaceous, gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34
			None	---	None	---	---	4-47	Dry to moist	32
			None	---	None	---	---	47-60	Dry to moist	34
		May	None	---	None	---	---	0-18	Dry to moist	34
			None	---	None	---	---	18-39	Dry to moist	32
			None	---	None	---	---	39-60	Dry to moist	34
		Jun	None	---	None	---	---	0-26	Dry to moist	34
			None	---	None	---	---	26-31	Dry to moist	32
			None	---	None	---	---	31-60	Dry to moist	34
			None	---	None	---	---	0-60	Dry to moist	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
R30MTE: 30-Subalpine scrub, ----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
										0-26	Dry to moist	34
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32		
								31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34		
30-Subalpine woodland, ----- loamy colluvial slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34		
								4-47	Dry to moist	32		
								47-60	Dry to moist	34		
		May	None	---	None	---	None	---	---	0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Dry to moist	34
										0-26	Dry to moist	34
Jun	None	---	None	---	None	---	---	26-31	Dry to moist	32		
								31-60	Dry to moist	34		
Jul-Sep	None	---	None	---	None	---	---	0-60	Dry to moist	34		
R30UPA: 30-Boreal taiga, silty plains ----	C	Apr	None	---	None	---	---	---	0-60	Wet	32	
									0- 6	Wet	34	
		May	None	---	None	---	None	---	---	6-60	Wet	32
										0- 8	Moist	34
										8-12	Moist	32
		Jun	None	---	None	---	None	---	---	12-60	Wet	32
										0-12	Moist	34
										12-14	Wet	34
										14-60	Wet	32
		Jul	None	---	None	---	None	---	---	0-12	Moist	34
12-14	Wet									34		
Aug-Sep	None	---	None	---	None	---	---	14-60	Wet	32		
								0-12	Moist	34		
								12-35	Wet	34		
35-60	Wet	32										
30-Subalpine woodland, ----- loamy till slopes	B	Apr	None	---	None	---	---	---	0- 4	Dry to moist	34	
									4-39	Dry to moist	32	
									39-47	Wet	32	
		May	None	---	None	---	None	---	---	47-60	Wet	34
										0-18	Dry to moist	34
										18-39	Dry to moist	32
										39-60	Wet	34
		Jun	None	---	None	---	None	---	---	0-26	Dry to moist	34
										26-31	Dry to moist	32
										31-39	Dry to moist	34
Jul-Sep	None	---	None	---	None	---	---	39-60	Wet	34		
								0-39	Dry to moist	34		
39-60	Wet	34										



Table 11. Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R30UPC: 30-Boreal forest,----- gravelly colluvial slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
26-31	Dry to moist	32									
31-60	Dry to moist	34									
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
30-Subalpine woodland,----- loamy till slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-39	Dry to moist	32	
								39-47	Wet	32	
		May	None	---	None	---	None	---	47-60	Wet	34
									0-18	Dry to moist	34
									18-39	Dry to moist	32
		Jun	None	---	None	---	None	---	39-60	Wet	34
0-26	Dry to moist								34		
26-31	Dry to moist								32		
31-39	Dry to moist	34									
39-60	Wet	34									
Jul-Sep	None	---	None	---	None	---	0-39	Dry to moist	34		
39-60	Wet	34									
30-Boreal forest, silty----- eolian slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
26-31	Dry to moist								32		
31-60	Dry to moist								34		
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
30-Subalpine scrub,----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
26-31	Dry to moist								32		
31-60	Dry to moist								34		
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R30UPD: 30-Boreal tussock-scrub,----- loamy plains	C	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
		Jun	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jul	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
								0-12	Moist	34
								12-14	Wet	34
		Aug-Sep	None	---	None	---	---	14-60	Wet	32
								0-12	Moist	34
12-24	Wet							34		
24-60	Wet							32		
30-Boreal dwarf scrub,----- silty plains	C	Apr	None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
		Jun	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jul	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
								0-12	Moist	34
								12-14	Wet	34
		Aug	None	---	None	---	---	14-60	Wet	32
								0-12	Moist	34
12-20	Wet							34		
20-60	Wet							32		
Sep	None	---	None	---	---	0-12	Moist	34		
						12-26	Wet	34		
						26-60	Wet	32		
30-Boreal sedge, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
		May	None	---	Frequent	Long	8-0	47-60	Wet	34
								0-18	Wet	34
								18-39	Wet	32
		Jun	None	---	Frequent	Long	8-0	39-60	Wet	34
								0-26	Wet	34
Jul-Sep	None	---	Frequent	Long	8-0	26-31	Wet	32		
						31-60	Wet	34		
	None	---	Frequent	Long	8-0	0-60	Wet	34		
30-Boreal scrub, loamy ----- terraces	B	Apr-Jun	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-10	Wet	34
								10-60	Wet	32
		Jul	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-30	Wet	34
								30-60	Wet	32
		Aug	None	---	Frequent	Long	4-0	0-2	Moist	34
								2-43	Wet	34
Sep	None	---	Frequent	Long	4-0	43-60	Wet	32		
						0-2	Moist	34		
						2-30	Wet	34		
							30-60	Wet	32	

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status				
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature		
							In.	In.		F		
R30UPE: 30-Boreal tussock-scrub,----- loamy plains	C	Apr	None	---	None	---	---	0-60	Wet	32		
			None	---	None	---	---	0-6	Wet	34		
		May	None	---	None	---	---	6-60	Wet	32		
			None	---	None	---	---	0-8	Moist	34		
		Jun	None	---	None	---	---	8-12	Moist	32		
			None	---	None	---	---	12-60	Wet	32		
		Jul	None	---	None	---	---	0-12	Moist	34		
			None	---	None	---	---	12-14	Wet	34		
		Aug-Sep	None	---	None	---	---	14-60	Wet	32		
			None	---	None	---	---	0-12	Moist	34		
									12-24	Wet	34	
									24-60	Wet	32	
30-Boreal taiga, loamy----- eolian slopes	D	Apr	None	---	None	---	---	0-60	Wet	32		
			None	---	None	---	---	0-6	Wet	34		
		May	None	---	None	---	---	6-60	Wet	32		
			None	---	None	---	---	0-8	Moist	34		
		Jun	None	---	None	---	---	8-12	Moist	32		
			None	---	None	---	---	12-60	Wet	32		
		Jul	None	---	None	---	---	0-12	Moist	34		
			None	---	None	---	---	12-14	Wet	34		
		Aug-Sep	None	---	None	---	---	14-60	Wet	32		
			None	---	None	---	---	0-12	Moist	34		
									12-31	Wet	34	
									31-60	Wet	32	
R37MTA: 37-Alpine dwarf scrub,----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0-4	Dry to moist	34		
			None	---	None	---	---	4-47	Dry to moist	32		
		May	None	---	None	---	---	47-60	Dry to moist	34		
			None	---	None	---	---	0-18	Dry to moist	34		
		Jun	None	---	None	---	---	18-39	Dry to moist	32		
			None	---	None	---	---	39-60	Dry to moist	34		
		Jul-Sep	None	---	None	---	---	0-26	Dry to moist	34		
			None	---	None	---	---	26-31	Dry to moist	32		
									31-60	Dry to moist	34	
									0-60	Dry to moist	34	
		37-Alpine scrub, loamy----- colluvial slopes	B	Apr	Occasional	Very brief	None	---	---	0-4	Moist	34
					Occasional	Very brief	None	---	---	4-14	Moist	32
May	Occasional			Very brief	None	---	---	14-47	Wet	32		
	Occasional			Very brief	None	---	---	47-60	Wet	34		
Jun	Occasional			Very brief	None	---	---	0-14	Moist	34		
	Occasional			Very brief	None	---	---	14-18	Wet	34		
Jul-Sep	Occasional			Very brief	None	---	---	18-39	Wet	32		
	Occasional			Very brief	None	---	---	39-60	Wet	34		
									0-14	Moist	34	
									14-26	Wet	34	
									26-31	Wet	32	
									31-60	Wet	34	
							0-14	Moist	34			
							14-60	Wet	34			

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temper- ature	
							In.	In.		F	
R37MTA: 37-Subalpine scrub,----- gravelly colluvial slopes	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
37-Subalpine woodland,----- loamy till slopes	B	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-39	Dry to moist	32	
								39-47	Wet	32	
		May	None	---	None	---	None	---	47-60	Wet	34
									0-18	Dry to moist	34
									18-39	Dry to moist	32
		Jun	None	---	None	---	None	---	39-60	Wet	34
									0-26	Dry to moist	34
									26-31	Dry to moist	32
Jul-Sep	None	---	None	---	None	---	31-39	Dry to moist	34		
							39-60	Wet	34		
							0-39	Dry to moist	34		
39-60	Wet	34									
R38FPA: 38-Boreal woodland,----- gravelly terraces	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		
38-Tundra scrub, gravelly----- terraces	A	Apr	None	---	None	---	---	0- 4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	None	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	None	---	0-26	Dry to moist	34
									26-31	Dry to moist	32
									31-60	Dry to moist	34
Jul-Sep	None	---	None	---	None	---	0-60	Dry to moist	34		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R38FPA: 38-Boreal forest, silty----- flood plains	B	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-47	Moist	32	
								47-60	Wet	34	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-39	Moist	32
									39-47	Moist	34
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Moist	32
									31-47	Moist	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-47	Moist	34
									47-60	Wet	34
38-Boreal scrub, gravelly----- flood plains	A	Apr	Occasional	Brief	None	---	---	0-4	Moist	34	
								4-26	Moist	32	
								26-47	Wet	32	
		May	Occasional	Brief	None	---	---	---	0-18	Moist	34
									18-26	Moist	32
									26-39	Wet	32
		Jun	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-31	Wet	32
									31-60	Wet	34
		Jul-Sep	Occasional	Brief	None	---	---	---	0-26	Moist	34
									26-60	Wet	34
R38FPB: 38-Boreal grass, loamy----- flood plains	D	Apr	Occasional	Brief	Frequent	Long	4-0	0-4	Wet	34	
								4-47	Wet	32	
								47-60	Wet	34	
		May	Occasional	Brief	Frequent	Long	4-0	4-0	0-18	Wet	34
									18-39	Wet	32
									39-60	Wet	34
		Jun-Jul	Occasional	Brief	Frequent	Long	4-0	4-0	0-26	Wet	34
									26-31	Wet	32
									31-60	Wet	34
		Aug-Sep	Occasional	Brief	Frequent	Long	4-0	4-0	0-60	Wet	34
38-Boreal scrub, silty----- flood plains	D	Apr	Occasional	Brief	Occasional	Brief	4-0	0-4	Moist	34	
								4-14	Moist	32	
								14-47	Wet	32	
		May	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-18	Wet	34
									18-39	Wet	32
		Jun	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-26	Wet	34
									26-31	Wet	32
		Jul-Sep	Occasional	Brief	Occasional	Brief	4-0	4-0	0-14	Moist	34
									14-60	Wet	34

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
							In.	In.		F	
R38PLA: 38-Boreal forest, silty plains---	A	Apr	None	---	None	---	---	0-4	Dry to moist	34	
								4-47	Dry to moist	32	
								47-60	Dry to moist	34	
		May	None	---	None	---	---	---	0-18	Dry to moist	34
									18-39	Dry to moist	32
									39-60	Dry to moist	34
		Jun	None	---	None	---	---	---	0-26	Dry to moist	34
26-31	Dry to moist	32									
31-60	Dry to moist	34									
Jul-Sep	None	---	None	---	---	---	0-60	Dry to moist	34		
38-Boreal scrub-sedge,----- loamy terraces	C	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
								6-60	Wet	32	
		Jun	None	---	None	---	---	---	0-8	Moist	34
									8-12	Moist	32
									12-60	Wet	32
		Jul	None	---	None	---	---	---	0-12	Moist	34
									12-14	Wet	34
									14-60	Wet	32
Aug	None	---	None	---	---	---	0-12	Moist	34		
							12-31	Wet	34		
							31-60	Wet	32		
Sep	None	---	None	---	---	---	0-12	Moist	34		
							12-26	Wet	34		
							26-60	Wet	32		
38-Boreal woodland, silty ----- plains	C	Apr	None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
								6-60	Wet	32	
		Jun	None	---	None	---	---	---	0-8	Moist	34
									8-12	Moist	32
									12-60	Wet	32
		Jul	None	---	None	---	---	---	0-12	Moist	34
									12-14	Wet	34
									14-60	Wet	32
		Aug	None	---	None	---	---	---	0-12	Moist	34
12-24	Wet								34		
24-60	Wet								32		
Sep	None	---	None	---	---	---	0-12	Moist	34		
							12-20	Wet	34		
							20-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
R38PLB: 38-Tundra scrub, silty plains --	D	Apr	None	---	None	---	---	In.		F
			None	---	None	---	---	0-60	Wet	32
		May	None	---	None	---	---	0-6	Wet	34
			None	---	None	---	---	6-60	Wet	32
			None	---	None	---	---	0-8	Moist	34
		Jun	None	---	None	---	---	8-12	Moist	32
			None	---	None	---	---	12-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
		Jul	None	---	None	---	---	12-14	Wet	34
			None	---	None	---	---	14-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
		Aug	None	---	None	---	---	12-24	Wet	34
			None	---	None	---	---	24-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
		Sep	None	---	None	---	---	12-22	Wet	34
			None	---	None	---	---	22-60	Wet	32
			None	---	None	---	---			
		38-Boreal woodland, loamy eolian slopes ---	B	Apr	None	---	None	---	---	0-4
None	---				None	---	---	4-47	Dry to moist	32
May	None			---	None	---	---	47-60	Dry to moist	34
	None			---	None	---	---	0-18	Dry to moist	34
	None			---	None	---	---	18-39	Dry to moist	32
Jun	None			---	None	---	---	39-60	Dry to moist	34
	None			---	None	---	---	0-26	Dry to moist	34
	None			---	None	---	---	26-31	Dry to moist	32
Jul-Sep	None			---	None	---	---	31-60	Dry to moist	34
	None			---	None	---	---	0-60	Dry to moist	34
38-Tundra dwarf scrub, silty plains -----	D	Apr	None	---	None	---	---	0-60	Wet	32
			None	---	None	---	---			
		May	None	---	None	---	---	0-6	Wet	34
			None	---	None	---	---	6-60	Wet	32
		Jun	None	---	None	---	---	0-8	Moist	34
			None	---	None	---	---	8-12	Moist	32
		Jul	None	---	None	---	---	12-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
		Aug	None	---	None	---	---	12-14	Wet	34
			None	---	None	---	---	14-60	Wet	32
		Sep	None	---	None	---	---	0-12	Moist	34
			None	---	None	---	---	12-30	Wet	34
R38PLC: 38-Tundra dwarf scrub, organic plains -----	C	Apr	None	---	None	---	---	0-60	Wet	32
			None	---	None	---	---			
		May	None	---	None	---	---	0-6	Wet	34
			None	---	None	---	---	6-60	Wet	32
		Jun	None	---	None	---	---	0-8	Moist	34
			None	---	None	---	---	8-12	Moist	32
		Jul	None	---	None	---	---	12-60	Wet	32
			None	---	None	---	---	0-12	Moist	34
		Aug	None	---	None	---	---	12-14	Wet	34
			None	---	None	---	---	14-60	Wet	32
		Sep	None	---	None	---	---	0-12	Moist	34
			None	---	None	---	---	12-31	Wet	34
						31-60	Wet	32		
						0-12	Moist	34		
						12-26	Wet	34		
						26-60	Wet	32		

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status		
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature
							In.	In.		F
R48PLC: 38-Tundra sedge, organic ----- depressions	D	Apr	None	---	Frequent	Long	8-0	0-4	Wet	34
								4-47	Wet	32
		May	None	---	Frequent	Long	8-0	0-18	Wet	34
								18-39	Wet	32
		Jun	None	---	Frequent	Long	8-0	0-26	Wet	34
26-31	Wet							32		
Jul-Sep	None	---	Frequent	Long	8-0	0-60	Wet	34		
R38UPB: 38-Boreal scrub, loamy ----- eolian slopes	C	Apr	None	---	None	---	---	0-60	Wet	32
								0-6	Wet	34
		May	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jun	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
								12-14	Wet	34
		Aug	None	---	None	---	---	14-60	Wet	32
								0-12	Moist	34
Sep	None	---	None	---	---	12-42	Wet	34		
						42-60	Wet	32		
0-12	Moist	34								
12-26	Wet	34								
26-60	Wet	32								
38-Tundra tussock-scrub, ----- organic eolian slopes	D	Apr	None	---	None	---	---	0-60	Wet	32
								0-6	Wet	34
		May	None	---	None	---	---	6-60	Wet	32
								0-8	Moist	34
		Jun	None	---	None	---	---	8-12	Moist	32
								12-60	Wet	32
		Jul	None	---	None	---	---	0-12	Moist	34
								12-14	Wet	34
		Aug	None	---	None	---	---	14-60	Wet	32
								0-12	Moist	34
Sep	None	---	None	---	---	12-31	Wet	34		
						31-60	Wet	32		
0-12	Moist	34								
12-26	Wet	34								
26-60	Wet	32								
38-Boreal scrub, loamy ----- colluvial slopes, Yukon- Kuskokwim Coastal Plain	B	Apr	None	---	None	---	---	0-4	Dry to moist	34
								4-39	Dry to moist	32
		May	None	---	None	---	---	39-47	Wet	32
								47-60	Wet	34
		Jun	None	---	None	---	---	0-18	Dry to moist	34
								18-39	Dry to moist	32
		Jul-Sep	None	---	None	---	---	39-60	Wet	34
								0-26	Dry to moist	34
		26-31	Dry to moist	32						
		31-39	Dry to moist	34						
39-60	Wet	34								
0-39	Dry to moist	34								
39-60	Wet	34								

Table 11. Water Features—Continued

Map symbol and soil name	Hydro logic group	Month	Flooding		Ponding			Soil moisture and temperature status			
			Frequency	Duration	Frequency	Duration	Depth	Depth	Moisture	Temperature	
R38UPB: 38-Tundra scrub, silty plains --	D	Apr	None	---	None	---	---	In.	In.		F
			None	---	None	---	---	0-60	Wet	32	
		May	None	---	None	---	---	0-6	Wet	34	
			None	---	None	---	---	6-60	Wet	32	
		Jun	None	---	None	---	---	0-8	Moist	34	
			None	---	None	---	---	8-12	Moist	32	
		Jul	None	---	None	---	---	12-60	Wet	32	
			None	---	None	---	---	0-12	Moist	34	
		Aug	None	---	None	---	---	12-14	Wet	34	
			None	---	None	---	---	14-60	Wet	32	
		Sep	None	---	None	---	---	0-12	Moist	34	
			None	---	None	---	---	12-24	Wet	34	
							24-60	Wet	32		
							0-12	Moist	34		
							12-22	Wet	34		
							22-60	Wet	32		



Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
30FP02:								
30-Takotna family -----	none	---	---	---	---	High	Moderate	Moderate
30-Gerstle family -----	none	---	---	0	0	Moderate	Low	Moderate
30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30-Urban land -----	none	---	---	---	---	---	---	---
30FP03:								
30-Takotna family -----	none	---	---	---	---	High	Moderate	Moderate
30-Gerstle family -----	none	---	---	0	0	Moderate	Low	Moderate
30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30HI02:								
30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30-Goldstream family -----	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30-Holitnafamily -----	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Bonasilafamily -----	none	---	---	0	0	Moderate	Low	Moderate
30KA02:								
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30KA08:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30-Sleetmute -----	none	---	---	0	0	Moderate	Low	Low
30MA01:								
30-Maqulluq -----	none	---	---	0	0	Moderate	Low	Low
30-Gerstle family -----	none	---	---	0	0	Moderate	Low	Moderate
30-Coville family, ----- gravelly	none	---	---	0	0	Moderate	Low	Low
30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30NU02:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Smithfha family, hillslopes -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
30NU03:		In.		In.	In.			
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Smithfha family, hillslopes -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30NU04:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Smithfha family, hillslopes -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30NU05:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Sleetmute family, gravelly -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30-Waterfall family -----	Lithic bedrock	18-39	Indurated	0	0	Moderate	Low	Low
30NU06:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Sleetmute family, gravelly -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Waterfall family -----	Lithic bedrock	18-39	Indurated	0	0	Moderate	Low	Low
30-Peede family -----	none	---	---	0	0	High	High	Low
30NU07:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Sleetmute family, hillslopes -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30-Goldstream family -----	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30NU08:								
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Sleetmute family, hillslope -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Goldstream family -----	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
30NU12: 30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Teggiuq -----	Permafrost	26-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Kaviriuq -----	none	---	---	0	0	Moderate	High	Moderate
30-Peede family -----	none	---	---	0	0	High	High	Low
30-Waterfall family -----	Lithic bedrock	18-39	Indurated	0	0	Moderate	Low	Low
30-Urban land -----	none	---	---	---	---	---	---	---
30OT01: 30-Aleknagik family -----	none	---	---	0	0	Moderate	Moderate	Moderate
30-Bonasilafamily -----	none	---	---	0	0	Moderate	Low	Moderate
30-Holokukfamily -----	none	---	---	0	0	Moderate	Low	Low
30-Huffman family -----	none	---	---	28-55	39-79	High	Moderate	Moderate
30OT02: 30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30-Noonku family -----	none	---	---	0-6	0-10	High	High	Moderate
30-Bonasilafamily -----	none	---	---	0	0	Moderate	Low	Moderate
30-Goldstream family -----	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30SL01: 30-Sleetmute -----	none	---	---	0	0	Moderate	Low	Low
30-Rock outcrop -----	none	---	---	---	---	---	---	---
30-Sleetmute family -----	none	---	---	0	0	High	High	Moderate
30-Waterfall family -----	Lithic bedrock	18-39	Indurated	0	0	Moderate	Low	Low
30TE01: 30-Liscum family -----	none	---	---	0	0	High	Moderate	Moderate
30-Huffman family -----	none	---	---	18-39	37-53	High	High	Moderate
30-Gerstle family, flood plains -----	none	---	---	0	0	Moderate	Low	Moderate
30TQ01: 30-Teggiuq -----	Permafrost	26-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Itulilikfamily -----	none	---	---	0	0	High	High	Low
30TQ02: 30-Teggiuq -----	Permafrost	26-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Itulilikfamily -----	none	---	---	0	0	High	High	Low

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
30TQ03:								
30-Teggiuq -----	Permafrost	26-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Itulilikfamily -----	none	---	---	0	0	High	High	Low
30VL01:								
30-Urban land -----	none	---	---	---	---	---	---	---
30-Takotna family -----	none	---	---	---	---	High	Moderate	Moderate
30-Nunaniq -----	none	---	---	0	0	Moderate	High	Moderate
30-Uknavikfamily -----	none	---	---	4-7	6-9	High	Moderate	Low
30VL02:								
30-Urban land -----	none	---	---	---	---	---	---	---
38DP01:								
38-Teggiuq family -----	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	High
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38-Water -----	none	---	---	---	---	---	---	---
38DP03:								
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38-Peede family -----	none	---	---	0	0	High	Moderate	Low
38-Takotna family -----	none	---	---	0	0	High	Moderate	Moderate
38ES01:								
38-Uknavikfamily, steep -----	none	---	---	0	0	High	High	Moderate
38-Teggiuq family, steep -----	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	Moderate
38FP01:								
38-Salchaket family -----	none	---	---	0	0	High	Moderate	Moderate
38-Happy family -----	Permafrost	14-30	Strongly cemented	16-33	24-47	High	Low	Low
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38FP02:								
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38-Karheen family -----	none	---	---	28-55	39-79	High	Moderate	Moderate
38-Kuslinad family -----	Permafrost	14-30	Strongly cemented	16-33	24-47	High	Low	Low
38-Water -----	none	---	---	---	---	---	---	---
38-Ulesqiirluni -----	none	---	---	0	0	High	Moderate	Moderate
38FP03:								
38-Takotna family, frequent flooding -	none	---	---	0	0	High	Moderate	Moderate
38-Noonku family, frequent flooding -	none	---	---	0	0	High	High	High

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
38TE01:								
38-Teggiuq family -----	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	Moderate
38-Karheen family-----	none	---	---	28-55	39-79	High	Moderate	Moderate
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38TE03:								
38-Inmachuk family-----	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	High
38-Teggiuq family -----	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	Moderate
38-Karheen family-----	none	---	---	28-55	39-79	High	Moderate	Moderate
38UL01:								
38-Ulesqiirluni-----	none	---	---	0	0	High	Moderate	Moderate
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38-Ulet -----	none	---	---	0	0	High	Low	Low
38-Urban land-----	none	---	---	---	---	---	---	---
38UL02:								
38-Ulesqiirluni-----	none	---	---	0	0	High	Moderate	Moderate
38-Uknavikfamily -----	none	---	---	0	0	High	High	Moderate
38-Water-----	none	---	---	---	---	---	---	---
38-Ulet -----	none	---	---	0	0	High	Low	Low
38UT01:								
38-Ulet -----	none	---	---	0	0	High	Low	Low
38-Beehive family -----	none	---	---	0	0	Moderate	Low	Low
38-Ulesqiirluni-----	none	---	---	0	0	High	Moderate	Moderate
38VL02:								
38-Urban land-----	none	---	---	---	---	---	---	---
D29FPA:								
29-Boreal forest, loamy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Boreal scrub, loamy flood plains, frequent flooding	none	---	---	0	0	High	Low	Low
29-Boreal forest, gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
29-Boreal forest, sandy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Boreal grass, loamy depressions, occasional flooding	none	---	---	0	0	Moderate	Moderate	Moderate
29-Boreal sedge, loamy depressions, occasional flooding	none	---	---	0	0	High	Moderate	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
D29FPB:		In.		In.	In.			
29-Boreal forest, sandy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Boreal forest, loamy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Boreal forest, gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
29-Boreal scrub, loamy depressions-	none	---	---	0	0	High	High	High
29-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
D29FPC:								
29-Boreal grass, loamy flood plains--	none	---	---	0	0	High	Moderate	Low
29-Boreal scrub, loamy depressions-	none	---	---	0	0	High	High	High
29-Boreal forest, loamy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Boreal scrub, loamy ----- flood plains, Interior Lowlands	none	---	---	16-33	24-47	High	Low	Low
29-Boreal sedge, loamy depressions	none	---	---	0	0	High	Moderate	Moderate
D29FPE:								
29-Boreal scrub, loamy ----- flood plains, frequent flooding	none	---	---	16-33	24-47	High	Low	Low
29-Boreal forest, loamy ----- flood plains, frequent flooding	none	---	---	0	0	High	Moderate	Moderate
29-Boreal forest, sandy ----- flood plains, frequent flooding	none	---	---	0	0	High	Moderate	Moderate
29-Boreal forest, silty flood plains ----	none	---	---	0	0	High	Moderate	Moderate
D29FPG:								
29-Boreal grass, organic ----- depressions	none	---	---	18-39	37-53	High	High	Moderate
29-Boreal scrub, loamy depressions-	none	---	---	0	0	High	High	High
29-Boreal forest, loamy flood plains--	none	---	---	0	0	High	Moderate	Moderate
29-Water-----	none	---	---	---	---	---	---	---
D29TEA:								
29-Boreal woodland, loamy terraces-	none	---	---	0	0	Moderate	Low	Moderate
29-Boreal scrub, loamy ----- flood plains, rare flooding	none	---	---	16-33	24-47	High	Low	Low
29-Boreal woodland, sandy terraces-	none	---	---	0	0	Moderate	Low	Low
29-Boreal sedge, organic ----- depressions	none	---	---	14-24	24-31	High	High	High

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
D29TEB:								
29-Boreal grass, organic flood plains, rare flooding	none	---	---	24-39	35-51	High	Moderate	Moderate
29-Boreal scrub, loamy depressions	none	---	---	0	0	High	High	High
29-Boreal taiga, silty plains	none	---	---	6-12	10-15	High	Moderate	Moderate
29-Boreal forest, loamy flood plains, rare flooding	none	---	---	0	0	High	Moderate	Moderate
29-Water	none	---	---	---	---	---	---	---
D29TEC:								
29-Boreal grass, organic flood plains, rare flooding	none	---	---	24-39	35-51	High	Moderate	Moderate
29-Boreal scrub, organic depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
29-Boreal sedge, sandy depressions	none	---	---	3-12	4-16	High	Moderate	Moderate
29-Boreal woodland, silty terraces	none	---	---	0	0	Moderate	High	Moderate
29-Water	none	---	---	---	---	---	---	---
D30FAC:								
30-Boreal forest, loamy fans	none	---	---	4-7	6-9	High	Moderate	Low
30-Boreal scrub, loamy fans	Permafrost	22-35	Very strongly cemented	24-41	35-59	High	High	High
30-Boreal forest, loamy terraces	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal sedge, loamy depressions, occasional flooding	none	---	---	0	0	High	Moderate	Moderate
D30FAD:								
30-Boreal scrub, gravelly drainages, outwash fan	none	---	---	0-6	0-10	High	High	Moderate
30-Boreal scrub, loamy drainages, outwash fan	none	---	---	0	0	High	High	Low
30-Boreal sedge, organic depressions, outwash fan	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal woodland, silty eolian slopes, outwash fan	none	---	---	0	0	Moderate	High	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
D30FPA:								
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Boreal forest, sandy flood plains--	none	---	---	0	0	High	Moderate	Moderate
30-Boreal scrub, gravelly flood plains	none	---	---	0	0	Moderate	Low	Low
30-Boreal woodland, loamy terraces-	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal scrub, silty----- flood plains, frequent flooding	none	---	---	0	0	High	High	Moderate
D30FPD:								
30-Boreal sedge, loamy depressions	none	---	---	0	0	High	Moderate	Moderate
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Water-----	none	---	---	---	---	---	---	---
30-Boreal forest, sandy flood plains--	none	---	---	0	0	High	Moderate	Moderate
D30FPE:								
30-Boreal scrub, gravelly----- flood plains, frequent flooding	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, silty----- flood plains, frequent flooding	none	---	---	0	0	High	High	Moderate
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Boreal sedge, loamy ----- depressions, frequent flooding	none	---	---	0	0	High	Moderate	Moderate
D30FPF:								
30-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Boreal forest, silty----- terraces, occasional flooding	none	---	---	0	0	Moderate	Low	Low
30-Boreal sedge, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal scrub, gravelly flood plains	none	---	---	0	0	Moderate	Low	Low
D30FPH:								
30-Boreal scrub, loamy flood plains--	Permafrost	22-43	Strongly cemented	16-31	24-47	Moderate	Moderate	Low
30-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Boreal scrub, organic ----- depressions, occasional flooding	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal taiga, loamy terraces -----	Permafrost	24-56	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal forest, loamy terraces -----	none	---	---	0	0	Moderate	Low	Moderate





Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
D30MTD: 30-Alpine scrub, ----- gravelly residual slopes	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, ----- gravelly drainages	none	---	---	0-6	0-10	High	High	Moderate
D30TEA: 30-Boreal woodland, ----- sandy terraces	none	---	---	0	0	Moderate	Low	Low
30-Boreal woodland, ----- loamy terraces	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal woodland, ----- gravelly terraces	none	---	---	0	0	Moderate	Low	Low
30-Boreal sedge, loamy depressions	none	---	---	0	0	High	Moderate	Moderate
30-Boreal taiga, loamy terraces -----	Permafrost	24-56	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal scrub, gravelly drainages -	none	---	---	0-6	0-10	High	High	Moderate
D30TEB: 30-Boreal scrub, silty terraces -----	none	---	---	0	0	High	High	High
30-Boreal sedge, loamy depressions	none	---	---	0	0	High	Moderate	Moderate
30-Boreal scrub, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal forest, loamy terraces -----	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal scrub-sedge, ----- loamy terraces	Permafrost	16-36	Strongly cemented	24-41	35-59	High	Moderate	Moderate
30-Water -----	none	---	---	---	---	---	---	---
D30TEF: 30-Boreal scrub-sedge, ----- loamy terraces	Permafrost	16-36	Strongly cemented	24-41	35-59	High	Moderate	Moderate
30-Boreal scrub, loamy terraces -----	Permafrost	16-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal taiga, loamy terraces -----	Permafrost	24-56	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal scrub, silty terraces -----	none	---	---	0	0	High	High	High
30-Boreal woodland, loamy terraces-	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal forest, loamy terraces -----	none	---	---	0	0	Moderate	Low	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
D30TEG:		In.		In.	In.			
30-Boreal scrub, organic terraces ----	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal sedge, loamy depressions	none	---	---	0	0	High	Moderate	Moderate
30-Water-----	none	---	---	---	---	---	---	---
30-Boreal sedge, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
D38FPA:								
38-Boreal forest, silty----- flood plains, occasional flooding	none	---	---	0	0	High	Moderate	Moderate
38-Boreal scrub, silty----- flood plains, moderately wet	none	---	---	0	0	High	High	Moderate
38-Boreal forest, silty----- flood plains, moderately wet	none	---	---	0	0	High	Moderate	Moderate
38-Boreal sedge, silty----- flood plains, wet	none	---	---	0	0	High	High	Moderate
D38FPB:								
38-Boreal forest, sandy flood plains--	none	---	---	0	0	High	Moderate	Moderate
38-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
38-Boreal scrub, sandy flood plains--	none	---	---	0	0	High	Low	Low
38-Boreal scrub, silty----- flood plains, high pH	none	---	---	0	0	High	High	Moderate
38-Boreal forest, silty flood plains ----	none	---	---	0	0	High	Moderate	Moderate
D38FPC:								
38-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
38-Boreal sedge, loamy ----- depressions, occasional flooding	none	---	---	0	0	High	Moderate	Moderate
38-Boreal grass, organic flood plains	none	---	---	24-39	35-51	High	Moderate	Moderate
38-Boreal forest, silty flood plains ----	none	---	---	0	0	High	Moderate	Moderate
D38FPD:								
38-Boreal scrub, silty flood plains----	none	---	---	0	0	High	High	Moderate
38-Boreal forest, silty flood plains ----	none	---	---	0	0	High	Moderate	Moderate
38-Boreal scrub, sandy flood plains--	none	---	---	0	0	High	Low	Low
38-Boreal sedge, organic ----- depressions, occasional flooding	none	---	---	28-55	39-79	High	Moderate	Moderate
38-Boreal scrub-sedge,----- loamy terraces, frozen	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	Moderate







Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
R29UPB: 29-Boreal forest, silty eolian slopes --	none	---	---	0	0	Moderate	High	Moderate
29-Boreal taiga, silty eolian slopes ---	none	---	---	4-8	8-10	High	High	High
29-Subalpine woodland,----- silty colluvial slopes	none	---	---	0	0	Low	Low	Low
29-Boreal scrub, loamy ----- depressions	none	---	---	0	0	High	High	High
29-Boreal sedge, organic ----- depressions	none	---	---	14-24	24-31	High	High	High
R29UPC: 29-Boreal woodland, ----- sandy terraces	none	---	---	0	0	Moderate	Low	Low
29-Boreal forest, sandy terraces -----	none	---	---	0	0	Moderate	Low	Low
29-Boreal grass, loamy ----- depressions	none	---	---	0	0	Moderate	Moderate	Moderate
29-Boreal sedge, organic ----- depressions	none	---	---	14-24	24-31	High	High	High
R29WAA: 29-Water-----	none	---	---	---	---	---	---	---
R30FPA: 30-Boreal forest, ----- gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
30-Boreal forest, loamy flood plains--	none	---	---	---	---	High	Moderate	Moderate
30-Boreal scrub, ----- gravelly flood plains	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, silty terraces -----	none	---	---	0	0	High	High	High
30-Boreal sedge, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal taiga, loamy terraces -----	Permafrost	24-56	Strongly cemented	16-33	24-47	High	Moderate	Moderate
R30HIA: 30-Boreal forest, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal taiga, loamy eolian slopes	Permafrost	24-57	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30-Boreal scrub, organic depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal scrub, loamy drainages----	none	---	---	0	0	High	High	Low
30-Boreal scrub, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal woodland, ----- loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
<b>R30HID:</b>								
30-Boreal forest, silty-colluvial slopes	none	---	---	0	0	Low	Low	Low
30-Boreal forest, silty-eolian slopes, rocky	none	---	---	0	0	Moderate	High	Moderate
30-Subalpine woodland, silty colluvial slopes	none	---	---	0	0	Low	Low	Low
30-Boreal taiga, silty eolian slopes	none	---	---	4-8	8-10	High	High	High
30-Boreal forest, silty drainages	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, gravelly residual slopes	Paralithic bedrock	18-36	Strongly cemented	0	0	Moderate	Low	Moderate
30-Subalpine dwarf scrub, gravelly residual slopes	Lithic bedrock	10-24	Indurated	0	0	Low	Low	Low
30-Rock outcrop, limestone	none	---	---	---	---	---	---	---
<b>R30MTA:</b>								
30-Boreal forest, silty eolian slopes	none	---	---	0	0	Moderate	High	Moderate
30-Boreal forest, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal woodland, gravelly colluvial slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal scrub, loamy drainages	none	---	---	0	0	High	High	Low
30-Boreal scrub, silty-colluvial slopes	Paralithic bedrock	30-49	Extremely weakly cemented	0	0	High	Moderate	Moderate
30-Boreal woodland, silty eolian slopes	none	---	---	0	0	Moderate	High	Moderate
30-Subalpine scrub, gravelly colluvial slopes	none	---	---	0	0	Moderate	Low	Low
<b>R30MTB:</b>								
30-Boreal taiga, loamy-colluvial slopes	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30-Boreal forest, gravelly-colluvial slopes	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Subalpine forest, gravelly residual slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Subalpine scrub, loamy colluvial slopes	none	---	---	0	0	High	High	Moderate
30-Boreal forest, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
R30MTB: 30-Alpine scrub-sedge, ----- loamy colluvial slopes	Permafrost	26-45	Strongly cemented	16-31	24-47	High	Moderate	Moderate
30-Alpine scrub, ----- gravelly residual slopes	none	---	---	0	0	Moderate	Low	Low
30-Rock outcrop, sedimentary-----	none	---	---	---	---	---	---	---
30-Boreal forest, ----- gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
R30MTC: 30-Boreal forest, gravelly ----- colluvial slopes	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, silty ----- colluvial slopes	Paralithic bedrock	30-49	Extremely weakly cemented	0	0	High	Moderate	Moderate
30-Subalpine woodland, ----- gravelly colluvial slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal taiga, loamy ----- colluvial slopes	Permafrost	22-39	Strongly cemented	8-12	10-24	High	Moderate	Moderate
30-Alpine dwarf scrub, ----- gravelly residual slopes	Lithic bedrock	19-59	Strongly cemented	0	0	Moderate	Low	Low
30-Alpine herbaceous, ----- gravelly colluvial slopes	Paralithic bedrock	16-31	Strongly cemented	0	0	Moderate	Moderate	Moderate
30-Boreal scrub, gravelly drainages -	none	---	---	0-6	0-10	High	High	Moderate
30-Rock outcrop, sedimentary-----	none	---	---	---	---	---	---	---
30-Subalpine woodland, ----- loamy colluvial slopes	Lithic bedrock	20-60	Very strongly cemented	0	0	Moderate	High	Moderate
R30MTD: 30-Alpine herbaceous, ----- gravelly colluvial slopes	Paralithic bedrock	16-31	Strongly cemented	0	0	Moderate	Moderate	Moderate
30-Rock outcrop, igneous-----	none	---	---	---	---	---	---	---
30-Subalpine woodland, ----- gravelly colluvial slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Alpine dwarf scrub, ----- gravelly till slopes	none	---	---	0	0	Moderate	Low	Low
30-Subalpine scrub, ----- gravelly till slopes	none	---	---	0	0	Moderate	Moderate	High
30-Subalpine scrub, ----- loamy till slopes	none	---	---	0	0	High	Moderate	High
30-Boreal forest, ----- gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
30-Subalpine sedge, ----- organic depressions	none	---	---	28-55	39-79	High	Moderate	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
R30MTD: 30-Boreal forest, gravelly colluvial slopes	none	---	---	0	0	Moderate	Low	Low
R30MTE: 30-Alpine herbaceous, gravelly colluvial slopes	Paralithic bedrock	16-31	Strongly cemented	0	0	Moderate	Moderate	Moderate
30-Subalpine scrub, gravelly colluvial slopes	none	---	---	0	0	Moderate	Low	Low
30-Subalpine woodland, loamy colluvial slopes	Lithic bedrock	20-60	Very strongly cemented	0	0	Moderate	High	Moderate
30-Rock outcrop, sedimentary	none	---	---	---	---	---	---	---
30-Subalpine forest, gravelly residual slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Alpine scrub, gravelly fans	none	---	---	0	0	Moderate	Low	Low
30-Boreal forest, gravelly flood plains	none	---	---	0	0	Moderate	Low	Moderate
30-Alpine dwarf scrub, gravelly residual slopes	Lithic bedrock	19-59	Strongly cemented	0	0	Moderate	Low	Low
R30UPA: 30-Boreal taiga, silty plains	Permafrost	20-39	Strongly cemented	24-41	35-59	High	High	High
30-Subalpine woodland, loamy till slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Subalpine sedge, organic depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal scrub, loamy drainages	none	---	---	0	0	High	High	Low
30-Alpine dwarf scrub, gravelly residual slopes	Lithic bedrock	19-59	Strongly cemented	0	0	Moderate	Low	Low
30-Subalpine dwarf scrub, gravelly residual slopes	Lithic bedrock	10-24	Indurated	0	0	Low	Low	Low
R30UPB: 30-Boreal forest, loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal scrub, loamy colluvial slopes	Paralithic bedrock	18-36	Strongly cemented	0	0	Moderate	Moderate	Moderate
30-Boreal tussock-scrub, loamy plains	Permafrost	22-37	Very strongly cemented	16-33	24-47	High	High	High
30-Rock outcrop, rhyolite	none	---	---	---	---	---	---	---
30-Alpine scrub, gravelly residual slopes	none	---	---	0	0	Moderate	Low	Low
30-Alpine scrub, loamy colluvial slopes	none	---	---	0	0	High	Moderate	Moderate

Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In.	In.			
R30UPB:								
30-Boreal scrub, loamy drainages----	none	---	---	0	0	High	High	Low
30-Subalpine forest, ----- gravelly residual slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Subalpine woodland,----- loamy colluvial slopes	Lithic bedrock	20-60	Very strongly cemented	0	0	Moderate	High	Moderate
R30UPC:								
30-Boreal forest, gravelly ----- colluvial slopes	none	---	---	0	0	Moderate	Low	Low
30-Subalpine woodland,----- loamy till slopes	none	---	---	0	0	Moderate	Moderate	Moderate
30-Boreal forest, silty eolian slopes --	none	---	---	0	0	Moderate	High	Moderate
30-Subalpine scrub, gravelly ----- colluvial slopes	none	---	---	0	0	Moderate	Low	Low
30-Boreal scrub, gravelly drainages -	none	---	---	0-6	0-10	High	High	Moderate
30-Subalpine sedge, ----- organic depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-boreal woodland, sandy terraces-	none	---	---	0	0	Moderate	Low	Low
R30UPD:								
30-Boreal tussock-scrub, loamy----- plains	Permafrost	22-37	Very strongly cemented	16-33	24-47	High	High	High
30-Boreal dwarf scrub, silty plains----	Permafrost	14-35	Very strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal sedge, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
30-Boreal scrub, loamy ----- terraces	Permafrost	16-47	Strongly cemented	16-33	24-47	High	Moderate	Moderate
30-Boreal scrub, silty----- colluvial slopes	Paralithic bedrock	30-49	Extremely weakly cemented	0	0	High	Moderate	Moderate
30-Boreal sedge, loamy ----- depressions	none	---	---	0	0	High	Moderate	Moderate
30-Boreal scrub, sandy ----- eolian slopes	Permafrost	28-35	Very strongly cemented	4-16	4-24	Low	Moderate	Low
30-Water-----	none	---	---	---	---	---	---	---
30-Boreal scrub, ----- gravelly drainages	none	---	---	0-6	0-10	High	High	Moderate
30-Subalpine woodland,----- loamy colluvial slopes	Lithic bedrock	20-60	Very strongly cemented	0	0	Moderate	High	Moderate



Table 12. Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
R38FPA: 38-Boreal woodland, ----- gravelly terraces	none	---	---	0	0	Moderate	Low	Low
38-Tundra scrub, gravelly terraces---	none	---	---	0	0	Low	Low	Low
38-Boreal forest, silty flood plains ----	none	---	---	0	0	High	Moderate	Moderate
38-Boreal scrub, ----- gravelly flood plains	none	---	---	0	0	Moderate	Low	Low
38-Boreal dwarf scrub, ----- silty terraces	none	---	---	2-6	4-12	High	Moderate	Moderate
38-Boreal taiga, silty plains -----	Permafrost	14-26	Strongly cemented	24-41	35-59	High	High	Low
38-Tundra scrub, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	High
38-Tundra scrub, organic terraces ---	Permafrost	12-24	Strongly cemented	28-55	39-79	High	Moderate	High
R38FPB: 38-Boreal grass, loamy flood plains--	none	---	---	0	0	High	Moderate	Low
38-Boreal scrub, silty flood plains-----	none	---	---	0	0	High	High	Moderate
38-Boreal grass, organic ----- flood plains	none	---	---	24-39	35-51	High	Moderate	Moderate
R38PLA: 38-Boreal forest, silty----- plains	none	---	---	0	0	Moderate	Low	Low
38-Boreal scrub-sedge, ----- loamy terraces	Permafrost	24-39	Strongly cemented	24-41	35-59	High	Moderate	Moderate
38-Boreal woodland, silty plains -----	Permafrost	16-31	Very strongly cemented	16-33	24-47	High	Moderate	Moderate
38-Boreal dwarf scrub, ----- silty terraces	none	---	---	2-6	4-12	High	Moderate	Moderate
38-Boreal sedge, organic ----- depressions	none	---	---	28-55	39-79	High	Moderate	Moderate
38-Water-----	none	---	---	---	---	---	---	---
38-Boreal grass, organic ----- flood plains	none	---	---	24-39	35-51	High	Moderate	Moderate
R38PLB: 38-Tundra scrub, silty plains -----	Permafrost	18-30	Very strongly cemented	0	0	High	Moderate	Moderate
38-Boreal woodland, ----- loamy eolian slopes	none	---	---	0	0	Moderate	Moderate	Moderate
38-Tundra dwarf scrub, silty plains---	Permafrost	24-39	Strongly cemented	24-41	35-59	High	High	High
38-Tundra tussock-scrub, silty plains	Permafrost	28-43	Strongly cemented	24-41	35-59	High	Moderate	Moderate



Table 13. Hydric Soils List

(Those map units having symbols beginning with "D" or "R" are mapped at broader intensities. Hydric soil ratings for these units provide general information only and are not suitable for wetland determinations or studies.)

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
229	29DP03: Noonku family, 0 to 2 percent slopes	29-Noonku family, ponded	90	Flood plains	Yes	2B2
229	29FP01: Fubar-Noonku families complex, 0 to 3 percent slopes	29-Noonku family, frequent flooding	35	Flood plains	Yes	2B2
229	29FP02: Salchaket family, 0 to 2 percent slopes	29-Liscum family	5	Flood plains	Yes	2B3, 3
229	29FP03: Chichantna family, 0 to 2 percent slopes	29-Chichantna family 29-Liscum family	90 5	Depressions, Flood plains	Yes Yes	1 2B3, 3
230	30DP01: Holitnafamily, 0 to 2 percent slopes	30-Holitnafamily 30-Uknavikfamily	90 10	Mountains Alluvial fans	Yes Yes	1, 3 2B3
230	30DP03: Oskawalikfamily, 0 to 2 percent slopes	30-Oskawalikfamily	90	Alluvial fans	Yes	2B3
230	30FP01: Takotna family-Itulilikfamily complex, 0 to 3 percent slopes	30-Itulilikfamily	30	Alluvial fans	Yes	2B3
230	30FP02: Takotna family, 0 to 2 percent slopes	30-Uknavikfamily	10	Flood plains	Yes	2B3
230	30FP03: Takotna family-Gerstle family complex, 0 to 3 percent slope	30-Uknavikfamily	10	Alluvial fans	Yes	2B3
230	30HI02: Uknavikfamily-Goldstream family-Holitnafamily complex, 3 to 8 percent slopes	30-Uknavikfamily 30-Goldstream family 30-Holitnafamily	40 25 25	Hills Hills Hills	Yes Yes Yes	2B3 2B3 3, 1
230	30KA08: Kaviriuq-Nunaniq silt loams, 8 to 15 percent slopes	30-Peede family	5	Mountains	Yes	2B3
230	30MA01: Maqulluq very fine sandy loam, 0 to 3 percent slopes	30-Uknavikfamily	3	Flood plains	Yes	2B3
230	30NU02: Nunaniq silt loam, 3 to 8 percent slopes	30-Peede family	5	Mountains	Yes	2B3
230	30NU03: Nunaniq silt loam, 8 to 15 percent slopes	30-Peede family	5	Mountains	Yes	2B3
230	30NU04: Nunaniq silt loam, 15 to 25 percent slopes	30-Peede family	5	Mountains	Yes	2B3
230	30NU05: Nunaniq silt loam, 25 to 45 percent slopes	30-Peede family	5	Mountains	Yes	2B3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
230	30NU06: Nunaniq silt loam, 45 to 100 percent slopes	30-Peede family	5	Mountains	Yes	2B3
230	30NU07: Nunaniq-Sleetmute family, hillslopes, complex, 8 to 25 percent slopes	30-Peede family 30-Goldstream family	3 2	Mountains Hills	Yes Yes	2B3 2B3
230	30NU08: Nunaniq-Sleetmute family, hillslopes, complex, 25 to 45 percent slopes	30-Goldstream family 30-Peede family	1 1	Hills Mountains	Yes Yes	2B3 2B3
230	30NU12: Nunaniq-Kaviriuq-Teggiuq complex, 8 to 25 percent slopes	30-Teggiuq 30-Peede family	30 5	Mountains Mountains	Yes Yes	2B3 2B3
230	30OT01: Aleknagik family-Bonasilafamily complex, 8 to 25 percent slopes	30-Huffman family	5	Mountains	Yes	1, 3
230	30OT02: Uknavikfamily-Noonku family complex, 3 to 15 percent slopes	30-Uknavikfamily 30-Noonku family 30-Goldstream family	60 20 10	Alluvial fans Plains Hills	Yes Yes Yes	2B3 2B2 2B3
230	30TE01: Liscum-Huffman families complex, 0 to 2 percent slopes	30-Liscum family 30-Huffman family	60 30	Flood plains Terraces	Yes Yes	3, 2B3 1
230	30TQ01: Teggiuq peat, 3 to 8 percent slopes	30-Teggiuq 30-Itulilikfamily	85 5	Mountains Hills	Yes Yes	2B3 2B3
230	30TQ02: Teggiuq peat, 8 to 15 percent	30-Teggiuq 30-Itulilikfamily	85 5	Mountains Hills	Yes Yes	2B3 2B3
230	30TQ03: Teggiuq peat, 15 to 25 percent	30-Teggiuq 30-Itulilikfamily	80 5	Mountains Hills	Yes Yes	2B3 2B3
230	30VL01: Village lands	30-Uknavikfamily	5	Flood plains	Yes	2B3
238	38DP01: Teggiuq family, 0 to 2 percent slopes	38-Teggiuq family 38-Uknavikfamily	85 10	Flood plains Flood plains	Yes Yes	1 2B3, 3
238	38DP03: Uknavikfamily, 0 to 2 percent slopes	38-Uknavikfamily 38-Peede family	85 10	Flood plains Flood plains	Yes Yes	2B3, 3 2B3, 3
238	38ES01: Uknavikfamily, 25 to 100 percent slopes	38-Uknavikfamily, steep 38-Teggiuq family, steep	90 10	Flood plains Terraces	Yes Yes	3, 2B3 2B3
238	38FP01: Salchaket-Happy families complex, 0 to 2 percent slopes	38-Happy family 38-Uknavikfamily	30 5	Flood plains Flood plains	Yes Yes	2B3 2B3, 3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
238	38FP02: Uknavikfamily-Karheen family complex, 0 to 2 percent slopes	38-Uknavikfamily	40	Flood plains	Yes	2B3, 3
		38-Karheen family	35	Flood plains	Yes	1
		38-Kuslinad family	10	Flood plains	Yes	2B3
238	38FP03: Takotna family-Noonku family complex, 0 to 3 percent slopes	38-Noonku family, frequent flooding	35	Flood plains	Yes	2B2
238	38TE01: Teggiuq family	38-Teggiuq family	80	Terraces	Yes	2B3
		38-Karheen family	15	Flood plains	Yes	1
		38-Uknavikfamily	5	Flood plains	Yes	2B3, 3
238	38TE03: Inmachuk-Teggiuq families complex, 0 to 3 percent slopes	38-Inmachuk family	50	Flood plains	Yes	1
		38-Teggiuq family	45	Terraces	Yes	2B3
		38-Karheen family	5	Flood plains	Yes	1
238	38UL01: Ulesqiirluni silt, 0 to 1 percent slopes	38-Uknavikfamily	10	Flood plains	Yes	3, 2B3
238	38UL02: Ulesqiirluni-Uknavikfamily complex, 0 to 3 percent slopes	38-Uknavikfamily	30	Flood plains	Yes	3, 2B3
229	D29FPA: Boreal Flood Plains	29-Boreal scrub, loamy flood plains, frequent flooding	20	Flood plains	Yes	2B3
		29-Boreal grass, loamy depressions, occasional flooding	5	Flood plains	Yes	2B3, 3
		29-Boreal sedge, loamy depressions, occasional flooding	5	Flood plains	Yes	2B3, 3
229	D29FPB: Boreal Flood Plains, sandy	29-Boreal scrub, loamy depressions	5	Flood plains	Yes	2B2
229	D29FPC: Boreal Flood Plains, wet	29-Boreal grass, loamy flood plains	40	Flood plains	Yes	3, 2B3
		29-Boreal scrub, loamy depressions	40	Flood plains	Yes	2B2
		29-Boreal scrub, loamy flood plains, interior lowlands	5	Flood plains	Yes	2B3
		29-Boreal sedge, loamy depressions	5	Flood plains	Yes	2B3, 3
229	D29FPE: Boreal Flood Plains, low	29-Boreal scrub, loamy flood plains, frequent flooding	60	Flood plains	Yes	2B3
229	D29FPG: Boreal Flood Plains, very wet	29-Boreal grass, organic depressions	55	Terraces	Yes	1
		29-Boreal scrub, loamy depressions	35	Flood plains	Yes	2B2

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
229	D29TEA: Boreal Eolian Terraces	29-Boreal scrub, loamy flood plains, rare flooding	25	Flood plains	Yes	2B3
		29-Boreal sedge, organic depressions	5	Plains	Yes	1
229	D29TEB: Boreal Terraces, wet	29-Boreal grass, organic flood plains, rare flooding	40	Flood plains	Yes	1
		29-Boreal scrub, loamy depressions	40	Flood plains	Yes	2B2
229	D29TEC: Boreal Peatland Terraces	29-Boreal grass, organic flood plains, rare flooding	40	Flood plains	Yes	1
		29-Boreal scrub, organic depressions	40	Plains	Yes	1
		29-Boreal sedge, sandy depressions	10	Plains	Yes	2B3, 3
230	D30FAC: Boreal Fans, wet	30-Boreal forest, loamy fans	40	Alluvial fans	Yes	2B3
		30-Boreal scrub, loamy fans	40	Alluvial fans	Yes	2B2
		30-Boreal sedge, loamy depressions, occasional flooding	10	Plains	Yes	3, 2B3
230	D30FAD: Boreal Eolian Fans, wet	30-Boreal scrub, gravelly drainages, outwash fan	40	Plains	Yes	2B2
		30-Boreal scrub, loamy drainages, outwash fan	30	Hills	Yes	2B3
		30-Boreal sedge, organic depressions, outwash fan	15	Mountains	Yes	1, 3
230	D30FPA: Boreal Flood Plains	30-Boreal scrub, silty flood plains, frequent flooding	5	Flood plains	Yes	2B3
230	D30FPD: Boreal Flood Plains, wet	30-Boreal sedge, loamy depressions	45	Plains	Yes	3, 2B3
230	D30FPE: Boreal Flood Plains, low	30-Boreal scrub, gravelly flood plains, frequent flooding	40	Flood plains	Yes	4
		30-Boreal scrub, silty flood plains, frequent flooding	40	Flood plains	Yes	2B3
		30-Boreal sedge, loamy depressions, frequent flooding	10	Plains	Yes	3, 2B3
230	D30FPF: Boreal Flood Plains, moist	30-Boreal scrub, silty flood plains	55	Flood plains	Yes	2B3
		30-Boreal sedge, organic depressions	5	Mountains	Yes	1, 3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
230	D30FPH: Boreal Flood Plains and Terraces, common permafrost	30-Boreal scrub, loamy flood plains	30	Flood plains	Yes	2B3
		30-Boreal scrub, silty flood plains	25	Flood plains	Yes	2B3
		30-Boreal scrub, organic depressions, occasional flooding	15	Hills	Yes	1, 3
		30-Boreal taiga, loamy terraces	10	Terraces	Yes	2B3
230	D30HIA: Boreal Eolian Hills	30-Boreal taiga, loamy colluvial slopes	5	Hills	Yes	2B3
		30-Boreal scrub, loamy drainages	2	Hills	Yes	2B3
230	D30HIB: Boreal Eolian Hills, common permafrost	30-Boreal taiga, loamy eolian slopes	30	Hills	Yes	2B3
		30-Boreal scrub-sedge, loamy eolian slopes	15	Hills	Yes	3, 2B3
		30-Boreal scrub, organic depressions	2	Hills	Yes	1, 3
230	D30MTA: Boreal and Subalpine Eolian Mountains	30-Subalpine scrub-sedge, silty eolian slopes	10	Mountains	Yes	2B3
		30-Boreal scrub, loamy drainages	3	Hills	Yes	2B3
230	D30MTB: Boreal and Subalpine Eolian Mountains, common permafrost	30-Boreal taiga, loamy eolian slopes	25	Hills	Yes	2B3
		30-Boreal forest, loamy drainages	3	Mountains	Yes	2B3
230	D30MTC: Boreal and Subalpine Mountains	30-Boreal taiga, loamy colluvial slopes	10	Hills	Yes	2B3
		30-Subalpine scrub-sedge, silty eolian slopes	3	Mountains	Yes	2B3
		30-Boreal scrub, gravelly drainages	2	Plains	Yes	2B2
230	D30MTD: Boreal and Subalpine Mountains, common permafrost	30-Boreal taiga, loamy colluvial slopes	20	Hills	Yes	2B3
		30-Boreal scrub, gravelly drainages	2	Plains	Yes	2B2
230	D30TEA: Boreal Terraces	30-Boreal sedge, loamy depressions	5	Plains	Yes	3, 2B3
		30-Boreal taiga, loamy terraces	3	Terraces	Yes	2B3
		30-Boreal scrub, gravelly drainages	2	Plains	Yes	2B2

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
230	D30TEB: Boreal Terraces, wet	30-Boreal scrub, silty terraces	25	Terraces	Yes	2B3
		30-Boreal sedge, loamy depressions	25	Plains	Yes	2B3, 3
		30-Boreal scrub, organic depressions	20	Hills	Yes	1, 3
		30-Boreal scrub-sedge, loamy terraces	10	Terraces	Yes	3, 2B3
230	D30TEF: Boreal Terraces, extensive permafrost	30-Boreal scrub-sedge, loamy terraces	30	Terraces	Yes	3, 2B3
		30-Boreal scrub, loamy terraces	25	Terraces	Yes	2B2, 1, 3
		30-Boreal taiga, loamy terraces	25	Terraces	Yes	2B3
		30-Boreal scrub, silty terraces	8	Terraces	Yes	2B3
230	D30TEG: Boreal Peatland Terraces, very wet	30-Boreal scrub, organic terraces	60	Terraces	Yes	3, 1
		30-Boreal sedge, loamy depressions	20	Plains	Yes	3, 2B3
		30-Boreal sedge, organic depressions	5	Mountains	Yes	1, 3
238	D38FPA: Boreal Flood Plains	38-Boreal sedge, silty flood plains, wet	5	Flood plains	Yes	3, 2B3
238	D38FPB: Boreal Flood Plains, sandy	38-Boreal scrub, silty flood plains	40	Flood plains	Yes	3, 2B3
238	D38FPC: Boreal Flood Plains, wet	38-Boreal scrub, silty flood plains	35	Flood plains	Yes	2B3, 3
		38-Boreal sedge, loamy depressions, occasional flooding	35	Flood plains	Yes	3, 2B3
		38-Boreal grass, organic flood plains	25	Flood plains	Yes	1
238	D38FPD: Boreal Flood Plains, moderately wet	38-Boreal scrub, silty flood plains	50	Flood plains	Yes	3, 2B3
		38-Boreal sedge, organic depressions, occasional flooding	3	Terraces	Yes	1
		38-Boreal scrub-sedge, loamy terraces, frozen	2	Terraces	Yes	2B3
238	D38FPE: Boreal Flood Plains, low	38-Boreal scrub, silty flood plains, frequent flooding	30	Flood plains	Yes	3, 2B3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
238	D38FPF: Boreal Flood Plains, common permafrost	38-Boreal scrub, loamy flood plains, yukon delta	45	Flood plains	Yes	2B3
		38-Boreal taiga, organic terraces, rare flooding	25	Terraces	Yes	1
		38-Boreal sedge, organic depressions, occasional flooding	5	Terraces	Yes	1
238	D38HIB: Boreal Eolian Hills, common permafrost	38-Boreal scrub, loamy eolian slopes, frozen, wet	35	Hills	Yes	2B3
		38-Boreal scrub-sedge, loamy terraces, frozen	25	Terraces	Yes	2B3
		38-Boreal sedge, organic depressions	3	Terraces	Yes	1
		38-Boreal forest, loamy drainages	2	Plains	Yes	2B3
238	D38TEB: Boreal Peatland Terraces, very wet	38-Boreal sedge, loamy depressions	45	Flood plains	Yes	2B3, 3
		38-Boreal sedge, organic depressions	35	Terraces	Yes	1
		38-Boreal scrub-sedge, loamy terraces	5	Terraces	Yes	2B3
238	D38TEC: Boreal Terraces, common permafrost	38-Boreal taiga, organic terraces	50	Terraces	Yes	1
		38-Boreal scrub-sedge, loamy terraces	35	Terraces	Yes	2B3
		38-Boreal dwarf scrub, silty terraces	10	Terraces	Yes	2B3
		38-Boreal sedge, organic depressions	3	Terraces	Yes	1
238	D38TED: Boreal Terraces, common permafrost, wet	38-Boreal scrub-sedge, loamy terraces	35	Terraces	Yes	2B3
		38-Boreal scrub-sedge, organic terraces	25	Terraces	Yes	1
		38-Boreal sedge, organic depressions	8	Terraces	Yes	1
229	R29FPC: Interior Alaska Lowlands, Boreal Flood Plains and Terraces	29-Boreal grass, organic flood plains	15	Flood plains	Yes	1
		29-Boreal grass, loamy flood plains	3	Flood plains	Yes	3, 2B3
		29-Boreal scrub, loamy flood plains	2	Flood plains	Yes	2B3
229	R29FPD: Interior Alaska Lowlands, Innoko River-Paiumiut Slough Flood Plains	29-Boreal scrub, loamy flood plains	50	Flood plains	Yes	2B3
		29-Boreal grass, loamy flood plains	48	Flood plains	Yes	3, 2B3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
229	R29FPE: Interior Alaska Lowlands, Tundra Flood Plains and Terraces	29-Boreal scrub, organic flood plains	45	Flood plains	Yes	1
		29-Boreal grass, organic flood plains	35	Flood plains	Yes	1
		29-Boreal scrub, loamy depressions	10	Flood plains	Yes	2B3, 2B2
		29-Boreal taiga, silty plains	5	Till plains	Yes	2B3
229	R29FPF: Interior Alaska Lowlands, Holitna River Flood Plains and Terraces	29-Boreal scrub, loamy flood plains	15	Flood plains	Yes	2B3
		29-Boreal grass, loamy flood plains	10	Flood plains	Yes	3, 2B3
		29-Boreal sedge, sandy depressions	5	Plains	Yes	3, 2B3
229	R29PLA: Interior Alaska Lowlands, Boreal Glaciated Plains	29-Boreal grass, loamy depressions	30	Flood plains	Yes	3, 2B3
		29-Boreal sedge, organic depressions	20	Plains	Yes	1
229	R29PLB: Interior Alaska Lowlands, Boreal Peatlands	29-Boreal sedge, organic plains	60	Plains	Yes	1
		29-Boreal taiga, silty plains	10	Till plains	Yes	2B3
		29-Boreal scrub, organic plains	5	Plains	Yes	1
229	R29UPA: Interior Alaska Lowlands, Boreal Glaciated Uplands	29-Boreal scrub, organic plains	30	Plains	Yes	1
		29-Boreal sedge, organic depressions	30	Plains	Yes	1
		29-Boreal taiga, silty plains	25	Till plains	Yes	2B3
229	R29UPB: Interior Alaska Lowlands, Boreal Uplands	29-Boreal taiga, silty eolian slopes	25	Hills	Yes	2B3
		29-Boreal scrub, loamy depressions	15	Flood plains	Yes	2B3, 2B2
		29-Boreal sedge, organic depressions	10	Plains	Yes	1
229	R29UPC: Interior Alaska Lowlands, Boreal Holitna Lowland Sand Sheet	29-Boreal grass, loamy depressions	10	Flood plains	Yes	2B3, 3
		29-Boreal sedge, organic depressions	5	Plains	Yes	1
230	R30FPA: Yukon-Kuskokwim Highlands, Boreal Flood Plains and Terraces	30-Boreal scrub, silty terraces	20	Terraces	Yes	2B3
		30-Boreal sedge, organic depressions	5	Mountains	Yes	1, 3
		30-Boreal taiga, loamy terraces	5	Terraces	Yes	2B3

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
230	R30HIA: Yukon-Kuskokwim Highlands, Boreal Hills	30-Boreal taiga, loamy eolian slopes	25	Hills	Yes	2B3
		30-Boreal scrub, organic depressions	20	Hills	Yes	1, 3
		30-Boreal scrub, loamy drainages	10	Hills	Yes	2B3
230	R30HID: Yukon-Kuskokwim Highlands, Kulukbuk Hills	30-Boreal taiga, silty eolian slopes	10	Hills	Yes	2B3
230	R30MTA: Yukon-Kuskokwim Highlands, Boreal Low Sedimentary Mountains	30-Boreal scrub, loamy drainages	10	Hills	Yes	2B3
		30-Boreal scrub, silty colluvial slopes	5	Mountains	Yes	3, 2B3
230	R30MTB: Yukon-Kuskokwim Highlands, Boreal and Subalpine Low Mountains	30-Boreal taiga, loamy colluvial slopes	20	Mountains	Yes	2B3
		30-Alpine scrub-sedge, loamy colluvial slopes	5	Mountains	Yes	2B3
230	R30MTC: Yukon-Kuskokwim Highlands, Boreal and Subalpine Mountains	30-Boreal scrub, silty colluvial slopes	20	Mountains	Yes	3, 2B3
		30-Boreal taiga, loamy colluvial slopes	15	Mountains	Yes	2B3
		30-Boreal scrub, gravelly drainages	5	Mountains	Yes	2B2
230	R30MTD: Yukon-Kuskokwim Highlands, Subalpine and Alpine Glaciated Igneous Mountains	30-Subalpine sedge, organic depressions	2	Mountains	Yes	1
230	R30UPA: Yukon-Kuskokwim Highlands, Boreal Glaciated Uplands	30-Boreal taiga, silty plains	35	Plains	Yes	2B3
		30-Subalpine sedge, organic depressions	15	Mountains	Yes	1
		30-Boreal scrub, loamy drainages	10	Hills	Yes	2B3
230	R30UPB: Yukon-Kuskokwim Highlands, Boreal Uplands and Rhyolitic Mountains	30-Boreal tussock-scrub, loamy plains	15	Plains	Yes	2B2
		30-Boreal scrub, loamy drainages	5	Hills	Yes	2B3
230	R30UPC: Yukon-Kuskokwim Highlands, Boreal and Subalpine Glaciated Uplands	30-Boreal scrub, gravelly drainages	5	Plains	Yes	2B2
		30-Subalpine sedge, organic depressions	5	Mountains	Yes	1

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
230	R30UPD: Yukon-Kuskokwim Highlands, Portage Mountain Uplands	30-Boreal tussock- scrub, loamy plains	25	Plains	Yes	2B2
		30-Boreal dwarf scrub, silty plains	20	Plains	Yes	2B3
		30-Boreal sedge, organic depressions	20	Mountains	Yes	1, 3
		30-Boreal scrub, loamy terraces	15	Terraces	Yes	2B2, 1, 3
		30-Boreal scrub, silty colluvial slopes	5	Mountains	Yes	3, 2B3
		30-Boreal sedge, loamy depressions	5	Plains	Yes	2B3, 3
		30-Boreal scrub, gravelly drainages	2	Plains	Yes	2B2
		230	R30UPE: Yukon-Kuskokwim Highlands, Tundra Glaciated Uplands	30-Boreal tussock- scrub, loamy plains	45	Plains
30-Boreal taiga, loamy eolian slopes	40			Hills	Yes	2B3
30-Boreal scrub, gravelly drainages	5			Plains	Yes	2B2
30-Boreal sedge, organic depressions	5			Mountains	Yes	3, 1
237	R37MTA: Ahklun Mountains, Subalpine and Alpine Glaciated Mountains	37-Alpine scrub, loamy colluvial slopes	15	Mountains	Yes	2B3
		37-Alpine sedge, organic colluvial slopes	5	Terraces	Yes	1
		37-Subalpine scrub, silty terraces	5	Terraces	Yes	2B2
		37-Alpine scrub, organic depressions	4	Mountains	Yes	1
238	R38FPA: Yukon-Kuskokwim Coastal Plain, Aniak River Flood Plain and Terraces	38-Boreal dwarf scrub, silty terraces	12	Terraces	Yes	2B3
		38-Boreal taiga, silty plains	12	Hills	Yes	2B3
		38-Tundra scrub, organic depressions	3	Plains	Yes	3, 1
		38-Tundra scrub, organic terraces	3	Plains	Yes	1
238	R38FPB: Yukon-Kuskokwim Coastal Plain, Boreal Flood Plains and Terraces	38-Boreal grass, loamy flood plains	45	Flood plains	Yes	3, 2B3
		38-Boreal scrub, silty flood plains	45	Flood plains	Yes	2B3, 3
		38-Boreal grass, organic flood plains	10	Flood plains	Yes	1

Table 13. Hydric Soils List—Continued

Major Land Resource Area	Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
238	R38PLA: Yukon-Kuskokwim Coastal Plain, Boreal Plains	38-Boreal scrub-sedge, loamy terraces	25	Terraces	Yes	2B3
		38-Boreal woodland, silty plains	20	Plains	Yes	2B3
		38-Boreal dwarf scrub, silty terraces	8	Terraces	Yes	2B3
		38-Boreal sedge, organic depressions	7	Terraces	Yes	1
		38-Boreal grass, organic flood plains	3	Flood plains	Yes	1
238	R38PLB: Yukon-Kuskokwim Coastal Plain, Boreal and Tundra Plains	38-Tundra scrub, silty plains	40	Plains	Yes	2B3
		38-Tundra dwarf scrub, silty plains	20	Plains	Yes	2B3
		38-Tundra sedge, silty depressions	5	Plains	Yes	2B3, 3
		38-Boreal sedge, organic depressions	2	Terraces	Yes	1
238	R38PLC: Yukon-Kuskokwim Coastal Plain, Tundra Plains	38-Tundra scrub, silty plains	25	Plains	Yes	2B3
		38-Tundra dwarf scrub, organic plains	20	Plains	Yes	1
		38-Tundra sedge, organic depressions	15	Plains	Yes	1
		38-Tundra sedge, silty depressions	5	Plains	Yes	2B3, 3
238	R38UPB: Yukon-Kuskokwim Coastal Plain, Tundra Uplands	38-Boreal scrub, loamy eolian slopes	25	Hills	Yes	2B3
		38-Tundra tussock- scrub, organic eolian slopes	25	Mountains	Yes	1
		38-Tundra scrub, silty plains	20	Plains	Yes	2B3
		38-Tundra sedge, organic depressions	5	Plains	Yes	1
		38-Boreal forest, loamy drainages	3	Plains	Yes	2B3

Table 14. Classification of the Soils

Major Land Resource Area	Soil name	Family or higher taxonomic class
229	29-Boreal forest, gravelly flood plains	Aquic Haplocryepts
229	29-Boreal forest, loamy flood plains	Aquic Cryofluvents
229	29-Boreal forest, loamy till plains	Typic Haplocryods
229	29-Boreal forest, sandy flood plains	Typic Cryofluvents
229	29-Boreal forest, sandy terraces	Spodic Dystrycryepts
229	29-Boreal forest, silty eolian slopes	Typic Dystrycryepts
229	29-Boreal forest, silty flood plains	Aquic Haplocryepts
229	29-Boreal forest, silty plains	Typic Haplocryepts
229	29-Boreal grass, loamy depressions	Aeric Cryaquepts
229	29-Boreal grass, loamy flood plains	Fluvaquentic Cryaquepts
229	29-Boreal grass, organic depressions	Histosols
229	29-Boreal grass, organic flood plains	Fluvaquentic Cryohemists
229	29-Boreal scrub, loamy depressions	Typic Cryaquents
229	29-Boreal scrub, loamy flood plains	Aquic Cryofluvents
229	29-Boreal scrub, organic depressions	Histosols
229	29-Boreal scrub, organic flood plains	Terric Hemistels
229	29-Boreal scrub, organic plains	Glacistels
229	29-Boreal scrub, silty flood plains	Aquic Haplocryepts
229	29-Boreal sedge, loamy depressions	Histic Cryaquepts
229	29-Boreal sedge, organic depressions	Histosols
229	29-Boreal sedge, organic plains	Hydric Cryohemists
229	29-Boreal sedge, sandy depressions	Histic Cryaquepts
229	29-Boreal taiga, silty eolian slopes	Histic Cryaquepts
229	29-Boreal taiga, silty plains	Histic Cryaquepts
229	29-Boreal woodland, loamy terraces	Spodic Dystrycryepts
229	29-Boreal woodland, sandy terraces	Typic Haplocryods
229	29-Boreal woodland, silty terraces	Aquic Dystrycryepts
229	29-Chichantna family	Euic Fluvaquentic Cryosaprists
229	29-Fubar family	Sandy-skeletal, mixed Typic Cryofluvents
229	29-Gerstle family	Coarse-loamy, mixed, superactive Aquic Haplocryepts
229	29-Liscum family	Coarse-loamy, mixed, superactive, nonacid Histic Cryaquepts
229	29-Noonku family	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents
229	29-Salchaket family	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
229	29-Subalpine woodland, silty colluvial slopes	Typic Haplocryepts
230	30-1Boreal sedge, organic depressions	Histosols
230	30-Aleknagik family	Coarse-silty, mixed, superactive Typic Haplocryods
230	30-Alpine dwarf scrub, gravelly residual slopes	Typic Eutrogelepts
230	30-Alpine dwarf scrub, gravelly till slopes	Typic Humigelods
230	30-Alpine herbaceous, gravelly colluvial slopes	Typic Dyströgelepts
230	30-Alpine scrub, gravelly fans	Fluventic Dystrycryepts
230	30-Alpine scrub, gravelly residual slopes	Typic Dyströgelepts
230	30-Alpine scrub, loamy colluvial slopes	Humic Dyströgelepts
230	30-Alpine scrub-sedge, loamy colluvial slopes	Typic Histoturbels
230	30-Bonasilafamily	Coarse-loamy, mixed, superactive Typic Haplocryepts
230	30-Boreal dwarf scrub, silty plains	Typic Aquiturbels
230	30-Boreal forest, gravelly colluvial slopes	Typic Haplocryods
230	30-Boreal forest, gravelly flood plains	Fluventic Haplocryepts
230	30-Boreal forest, loamy drainages	Typic Cryaquents
230	30-Boreal forest, loamy eolian slopes	Typic Haplocryods
230	30-Boreal forest, loamy fans	Cryaquepts
230	30-Boreal forest, loamy flood plains	Aquic Cryofluvents
230	30-Boreal forest, loamy terraces	Aquic Haplocryepts
230	30-Boreal forest, sandy flood plains	Typic Cryofluvents
230	30-Boreal forest, silty colluvial slopes	Typic Haplocryolls
230	30-Boreal forest, silty drainages	Aquic Haplocryepts
230	30-Boreal forest, silty eolian slopes	Typic Dystrycryepts
230	30-Boreal forest, silty terraces	Aquic Haplocryepts
230	30-Boreal scrub, gravelly drainages	Typic Cryaquents
230	30-Boreal scrub, gravelly flood plains	Aquic Cryorthents
230	30-Boreal scrub, gravelly residual slopes	Typic Haplocryepts
230	30-Boreal scrub, loamy colluvial slopes	Aquic Dystrycryepts

Table 14. Classification of the Soils—Continued

Major Land Resource Area	Soil name	Family or higher taxonomic class
230	30-Boreal scrub, loamy drainages	Typic Cryaquepts
230	30-Boreal scrub, loamy eolian slopes	Typic Haplocryods
230	30-Boreal scrub, loamy fans	Typic Histoturbels
230	30-Boreal scrub, loamy flood plains	Typic Aquorthels
230	30-Boreal scrub, loamy terraces	Histels
230	30-Boreal scrub, organic depressions	Histosols
230	30-Boreal scrub, organic terraces	Histosols
230	30-Boreal scrub, sandy eolian slopes	Typic Psammorthels
230	30-Boreal scrub, silty colluvial slopes	Histic Cryaquepts
230	30-Boreal scrub, silty flood plains	Fluvaquentic Cryaquepts
230	30-Boreal scrub, silty terraces	Typic Cryaquepts
230	30-Boreal scrub-sedge, loamy eolian slopes	Typic Cryaquepts
230	30-Boreal scrub-sedge, loamy terraces	Typic Histoturbels
230	30-Boreal sedge, loamy depressions	Typic Cryaquents
230	30-Boreal sedge, organic depressions	Histosols
230	30-Boreal taiga, loamy colluvial slopes	Typic Histoturbels
230	30-Boreal taiga, loamy eolian slopes	Typic Histoturbels
230	30-Boreal taiga, loamy terraces	Typic Histoturbels
230	30-Boreal taiga, silty eolian slopes	Histic Cryaquepts
230	30-Boreal taiga, silty plains	Typic Historthels
230	30-Boreal tussock-scrub, loamy plains	Typic Histoturbels
230	30-Boreal woodland, gravelly colluvial slopes	Typic Dystrycryepts
230	30-Boreal woodland, gravelly terraces	Typic Haplocryepts
230	30-Boreal woodland, loamy colluvial slopes	Typic Haplocryods
230	30-Boreal woodland, loamy eolian slopes	Aquic Dystrycryepts
230	30-Boreal woodland, loamy terraces	Spodic Dystrycryepts
230	30-boreal woodland, sandy terraces	Typic Haplocryods
230	30-Boreal woodland, sandy terraces	Typic Haplocryods
230	30-Boreal woodland, silty eolian slopes	Typic Haplocryods
230	30-Coville family	Loamy-skeletal, mixed, superactive, calcareous Typic Cryorthents
230	30-Gerstle family	Coarse-loamy, mixed, superactive Aquic Haplocryepts
230	30-Goldstream family	Coarse-silty, mixed, superactive, subgelic Typic Histoturbels
230	30-Holitnafamily	Loamy, mixed, dysic Terric Cryofibrists
230	30-Holokukfamily	Loamy-skeletal, mixed, superactive Typic Haplocryepts
230	30-Huffman family	Loamy, mixed, euic Terric Cryofibrists
230	30-Itulilikfamily	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquepts
230	30-Kaviriuq	Coarse-loamy, mixed, superactive Typic Haplocryods
230	30-Kuskokwimfamily	Coarse-silty, mixed, superactive Aquic Haplocryepts
230	30-Liscum family	Coarse-loamy, mixed, superactive, nonacid Histic Cryaquepts
230	30-Maqualluq	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Typic Haplocryods
230	30-Noonku family	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents
230	30-Nunaniq	Coarse-silty, mixed, superactive Typic Haplocryepts
230	30-Oskawalikfamily	Coarse-silty, mixed, superactive, nonacid Fluvaquentic Cryaquepts
230	30-Peede family	Coarse-silty, mixed, superactive, nonacid Typic Cryaquents
230	30-Sleetmute	Loamy-skeletal, mixed, superactive Typic Dystrycryepts
230	30-Sleetmute family	Loamy-skeletal, mixed, superactive Typic Dystrycryepts
230	30-Smithfha family	Coarse-loamy, mixed, superactive Typic Dystrycryepts
230	30-Subalpine dwarf scrub, gravelly residual slopes	Lithic Haplocryolls
230	30-Subalpine forest, gravelly residual slopes	Spodic Dystrycryepts
230	30-Subalpine scrub, gravelly colluvial slopes	Typic Humicryepts
230	30-Subalpine scrub, gravelly till slopes	Typic Haplogelods
230	30-Subalpine scrub, loamy colluvial slopes	Typic Dystrycryepts
230	30-Subalpine scrub, loamy till slopes	Aquic Dystrycryepts
230	30-Subalpine scrub-sedge, silty eolian slopes	Typic Gelaquepts
230	30-Subalpine sedge, organic depressions	Histosols
230	30-Subalpine woodland, gravelly colluvial slopes	Typic Dystrycryepts
230	30-Subalpine woodland, loamy colluvial slopes	Typic Haplocryods
230	30-Subalpine woodland, loamy till slopes	Aquic Dystrycryepts

Table 14. Classification of the Soils—Continued

Major Land Resource Area	Soil name	Family or higher taxonomic class
230	30-Subalpine woodland, silty colluvial slopes	Typic Haplocryepts
230	30-Takotna family	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
230	30-Teggiuq	Coarse-loamy, mixed, superactive, subgelic Typic Histoturbels
230	30-Uknavikfamily	Coarse-silty, mixed, superactive, nonacid Typic Cryaquepts
230	30-Waterfall family	Loamy-skeletal, mixed, superactive, acid Lithic Cryorthents
237	37-Alpine dwarf scrub, gravelly colluvial slopes	Typic Eutrogelepts
237	37-Alpine dwarf scrub, loamy colluvial slopes	Typic Dystrogelepts
237	37-Alpine scrub, loamy colluvial slopes	Fluvaquentic Gelaquepts
237	37-Alpine scrub, organic depressions	Histosols
237	37-Alpine sedge, organic colluvial slopes	Histosols
237	37-Boreal woodland, loamy colluvial slopes	Typic Haplocryods
237	37-Subalpine scrub, gravelly colluvial slopes	Typic Dystrocryepts
237	37-Subalpine scrub, gravelly depressions	Oxyaquic Dystrocryepts
237	37-Subalpine scrub, gravelly flood plains	Typic Gelifluvents
237	37-Subalpine scrub, silty terraces	Fluvaquentic Cryaquepts
237	37-Subalpine woodland, loamy till slopes	Typic Haplocryepts
238	38-Beehive family	Sandy-skeletal, mixed Oxyaquic Cryofluvents
238	38-Boreal dwarf scrub, silty terraces	Histic Cryaquepts
238	38-Boreal forest, loamy drainages	Typic Cryaquents
238	38-Boreal forest, sandy flood plains	Typic Cryofluvents
238	38-Boreal forest, silty eolian slopes	Typic Haplocryods
238	38-Boreal forest, silty flood plains	Typic Cryofluvents
238	38-Boreal forest, silty plains	Aquic Haplocryepts
238	38-Boreal grass, loamy flood plains	Typic Cryaquents
238	38-Boreal grass, organic flood plains	Fluvaquentic Cryohemists
238	38-Boreal scrub, gravelly flood plains	Aquic Cryorthents
238	38-Boreal scrub, loamy colluvial slopes	Aquic Dystrocryepts
238	38-Boreal scrub, loamy eolian slopes	Typic Histoturbels
238	38-Boreal scrub, loamy flood plains	Typic Aquorthels
238	38-Boreal scrub, loamy terraces	Typic Haplocryepts
238	38-Boreal scrub, sandy flood plains	Aquic Cryofluvents
238	38-Boreal scrub, silty flood plains	Fluvaquentic Cryaquepts
238	38-Boreal scrub, silty flood plains	Fluvaquentic Haplocryepts
238	38-Boreal scrub-sedge, loamy terraces	Typic Histoturbels
238	38-Boreal scrub-sedge, organic terraces	Histels
238	38-Boreal sedge, loamy depressions	Typic Cryaquents
238	38-Boreal sedge, organic depressions	Histosols
238	38-Boreal sedge, silty flood plains	Typic Cryaquents
238	38-Boreal taiga, organic terraces	Terric Hemistels
238	38-Boreal taiga, silty plains	Typic Histoturbels
238	38-Boreal woodland, gravelly terraces	Typic Haplocryods
238	38-Boreal woodland, loamy eolian slopes	Typic Haplocryods
238	38-Boreal woodland, silty plains	Typic Aquiturbels
238	38-Happy family	Coarse-silty, mixed, superactive, subgelic Fluvaquentic Aquorthels
238	38-Inmachuk family	Dysic, subgelic Typic Fibristels
238	38-Karheen family	Euic Typic Cryosaprists
238	38-Kuslinad family	Coarse-loamy, mixed, superactive, subgelic Typic Aquorthels
238	38-Noonku family	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents
238	38-Peede family	Coarse-silty, mixed, superactive, nonacid Typic Cryaquents
238	38-Salchaket family	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
238	38-Takotna family	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
238	38-Teggiuq family	Coarse-loamy, mixed, superactive, subgelic Typic Histoturbels
238	38-Tundra dwarf scrub, organic plains	Terric Hemistels
238	38-Tundra dwarf scrub, silty plains	Typic Histoturbels
238	38-Tundra scrub, gravelly terraces	Aquic Haplocryepts
238	38-Tundra scrub, organic depressions	Typic Cryohemists
238	38-Tundra scrub, organic terraces	Typic Hemistels
238	38-Tundra scrub, silty plains	Typic Aquiturbels
238	38-Tundra sedge, organic depressions	Terric Cryofibrists
238	38-Tundra sedge, silty depressions	Histic Cryaquepts

Table 14. Classification of the Soils—Continued

Major Land Resource Area	Soil name	Family or higher taxonomic class
238	38-Tundra tussock-scrub, organic eolian slopes	Histels
238	38-Tundra tussock-scrub, silty plains	Typic Umbriturbels
238	38-Uknavikfamily	Coarse-silty, mixed, superactive, nonacid Typic Cryaquepts
238	38-Ulesqiirluni	Coarse-silty, mixed, superactive, nonacid Typic Cryofluvents
238	38-Ulet	Coarse-loamy, mixed, superactive, nonacid Aquic Cryofluvents

## **NRCS Accessibility Statement**

---

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at [helpdesk@helpdesk.itc.nrcs.usda.gov](mailto:helpdesk@helpdesk.itc.nrcs.usda.gov). For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at <http://offices.sc.egov.usda.gov/locator/app>.